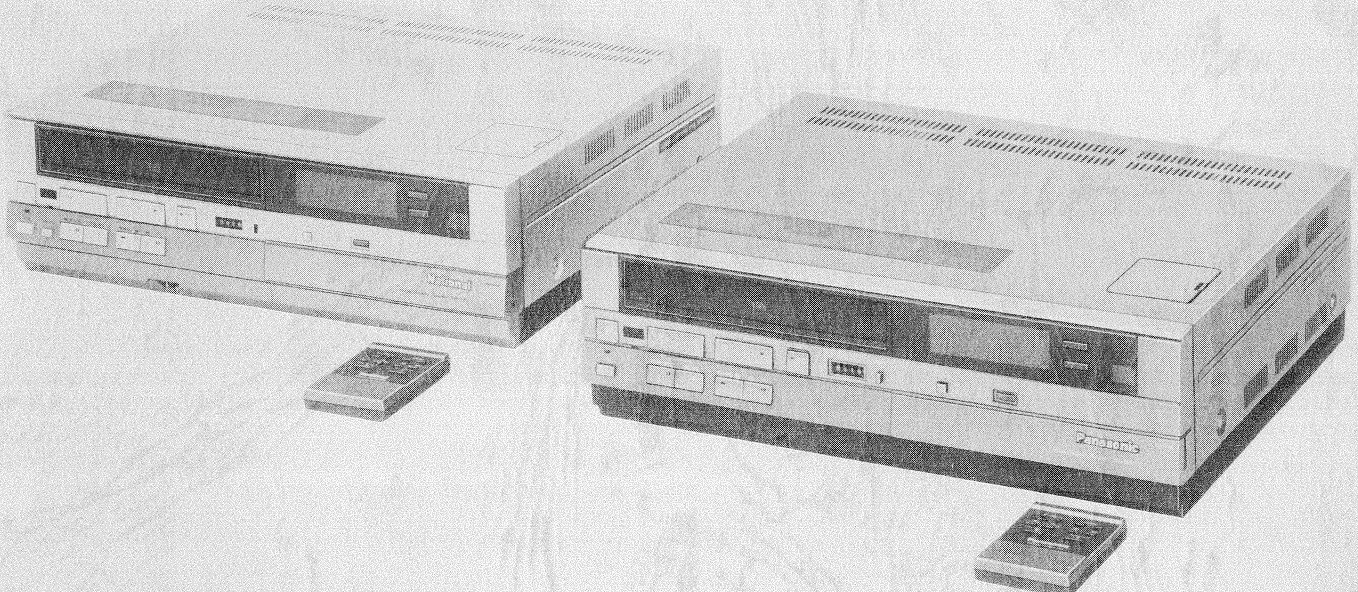
ORDER NO. VRD-8306-430

Service Manual

Video Cassette Recorder

National / Panasonic VHS

NV-600



Vol. 1	Vol. 2	Vol. 3	Vol. 4
Summary *Operating Instructions*	*Mechanical Adjustment Procedures* *Electrical Adjustment Procedures*	*Block Diagrams* *Schematic Diagrams*	*Exploded Views* *Replacement Parts List*

VHS

National / Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

ORDER NO. VRD-8306-430

Service Manual

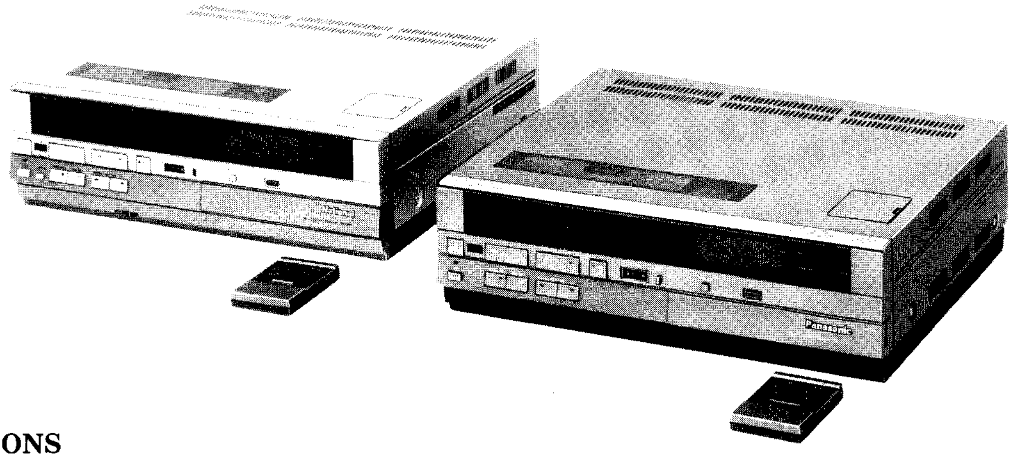
Video Cassette Recorder

National/Panasonic VHS

NV-600-E -EN

Vol. 1

Summary Operating Instructions



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-600-E)
110/220V AC 50/60Hz (NV-600-EN)
Power Consumption: Approx. 38 watts
Television System: CCIR: 625 lines, 50 fields
PAL colour signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240min. with NV-E240
FF/REW Time: Less than 4.5min. with NV-E180
Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L' Head) (field still)
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack (Phono jack)
More than −20dB, 50kΩ
TV Tuners: VHF CH2 ~ CH12
UHF CH21 ~ CH69

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack (Phono jack)
−6dB, less than 1kΩ
RF Modulated: UHF CH36 ± 4 (NV-600-E)
VHF CH3/CH4 (NV-600-EN)
76dBμ 75Ω unbalanced
Weight: 9.8kg
Dimensions: 430(W) × 129(H) × 373(D) mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-600-EN only)
1 pc. Wireless Remote Controller, (VSQ0305; NV-600-E) (VSQ0306; NV-600-EN)
Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240min.
NV-E180 Approx. 258m, 180min.
NV-E120 Approx. 174m, 120min.
NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

INTRODUCTION

This service manual contains technical information which will allows service technicians to understand and service the PAL VHS Video Tape Recorder Model NV-600E/EN.
The NV-600E/EN has many special features as shown in page 1-2.
These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

CONTENTS

SPECIFICATIONS .... Cover
INTRODUCTION 1-1
FEATURES 1-2
CONTROLS AND COMPONENTS 1-3
INFRA-RED REMOTE CONTROLLER 1-6

FEATURES

Front loading system

This design enables you to insert a video cassette in front without taking place.

Infra-red remote control

The remote controller allows you to control VTR from a distance.

Super Still

The Super Still mode is for clearer, less blurred still picture.

Still Advance

The Still Advance mode is for advancing a still-picture field by field with the Pause/Still Button depressed.

Cue/Review operation

You can locate a desired section with ease as you view the playback picture at 5 times normal speed in forward or reverse direction.

14-day 4 programmable timer

The built-in timer allows you to record TV programmes up to two weeks ahead, 4 different programmes can be recorded.

Memory function

The memory function is for the automatic tape stop when the counter reaches "0000" in the rewind mode.

Picture Sharpness Control

This is for making picture's outline sharper or softer.

One-Touch Timer Record Button

One-Touch Timer Record (OTR) Button enables you to do impromptu timer recordings at any time. Just select channel to be recorded and push the OTR Button for 30, 60, 90, 120 minutes of recording.

Recording one programme while watching another

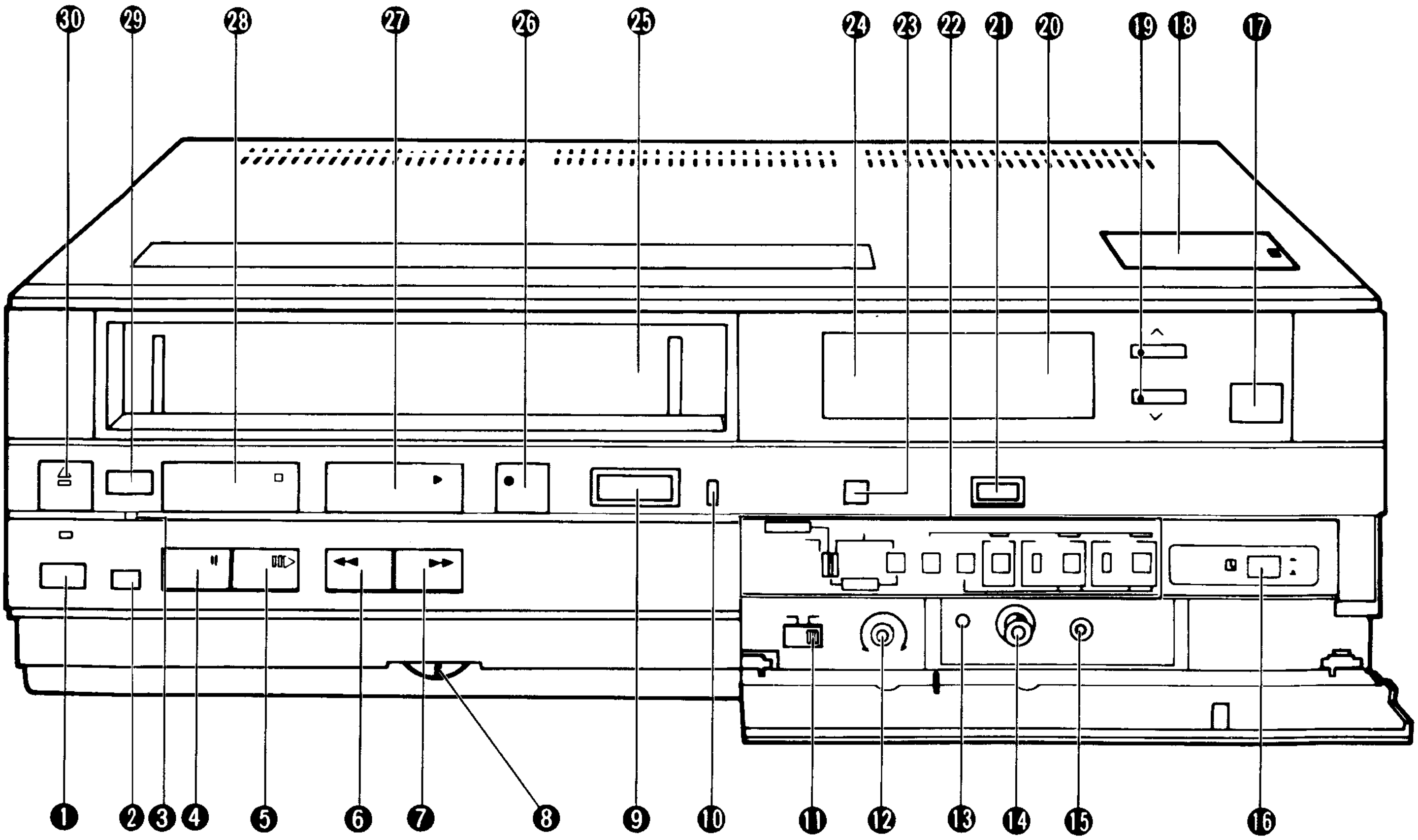
The built-in tuner allows you to record a programme that you don't want to miss while watching another programme.

Auto rewind (except timer recording and OTR)

When the tape reaches its end, the tape will automatically rewind to this beginning or to the "0000" counter position if the Memory Switch is ON.

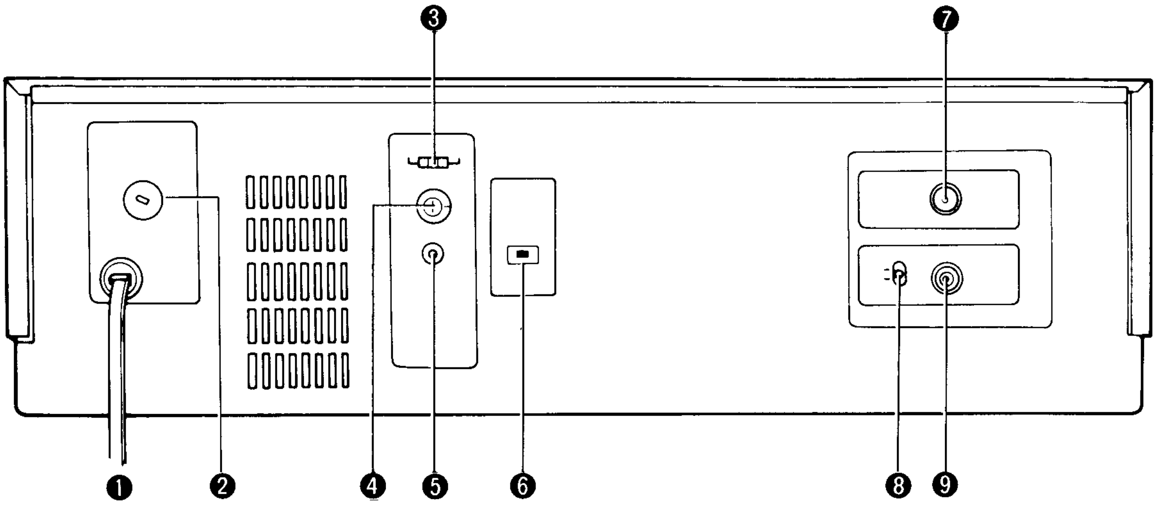
CONTROLS AND COMPONENTS

TOP AND FRONT



㉚
㉙
㉘
㉗
㉖
㉕
㉔
㉓
㉒
㉑
⑳
⑲
⑱
⑰
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯

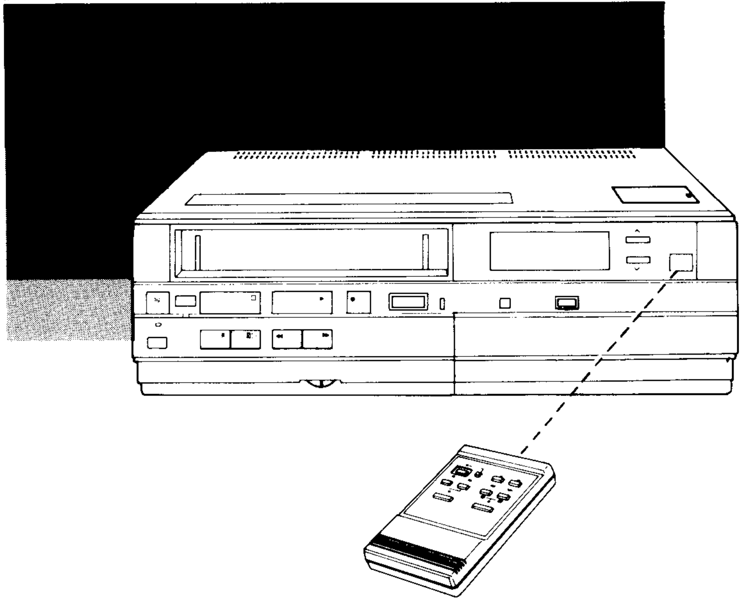
① VTR ON/OFF Switch	▬ VTR ☐	⑯ Timer Record Switch	☐ ▬ ON ▪ OFF
② VTR/TV Selector (NV-600EN only)	VTR / TV ☐	⑰ Infra-red Remote Control Receiver	☐
③ Moist Indicator Lamp	MOIST ▬	⑱ Tuner set-up Controls	
④ Pause/Still Button	PAUSE/STILL ▮▮	⑲ Channel up and down Buttons	^ ☐ ☐ v
⑤ Still Advance Button	STILL ADV ▮▮▷	⑳ Channel Display	
⑥ Rewind/Review ◀◀ Button	REWIND ◀◀ ◀◀	㉑ One-Touch Timer Rec (OTR) Button	OTR ☐
⑦ Fast Forward/Cue ▶▶ Button	▶▶ FF ▶▶	㉒ Timer Controls	
⑧ Tracking Control	TRACKING ▬ FIX	㉓ Memory ON/OFF Switch	MEMORY ☐ ▬ ON ▪ OFF
⑨ Tape Counter	COUNTER 0000	㉔ Time Display	
⑩ Reset Button	RESET ▯	㉕ Cassette Holder	
⑪ Input Signal Selector	INPUT SELECT CAMERA TUNER	㉖ Record Button	● REC
⑫ Picture Sharpness Control	PICTURE SOFT SHARP	㉗ Play Button	PLAY ▶
⑬ Camera Remote Control Socket	○ CAMERA REMOTE	㉘ Stop Button	STOP ☐
⑭ Video Input Socket	VIDEO IN	㉙ Cassette-in Indicator	TAPE
⑮ Audio Input Socket	◎ AUDIO IN	㉚ Eject Button	EJECT ⏏

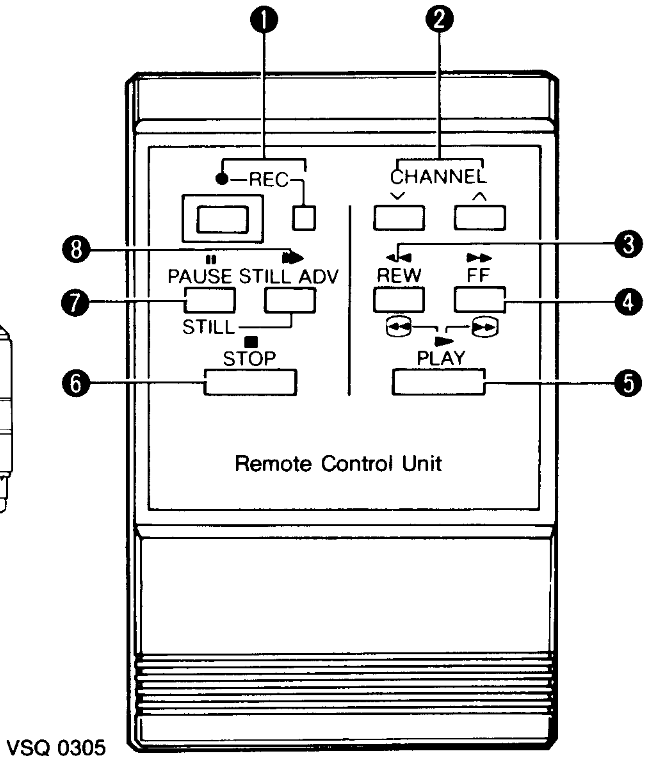


❶ AC Mains Cord	
❷ Voltage Selector (NV-600EN only)	VOLTAGE SELECTOR
❸ Colour Mode/Test Signal Switch	COLOUR/TEST SIGNAL COLOUR AUTO TEST
❹ Video Output Socket	VIDEO OUT
❺ Audio Output Socket	AUDIO OUT
❻ RF Converter Channel Selector (NV-600EN only)	CH3 CH4
❼ VTR RF Output Socket	RF OUT

❽ RF Signal Level Switch	LEVEL HIGH LOW
❾ RF Input Socket	RF IN

INFRA-RED REMOTE CONTROLLER





❶ **REC (Two Buttons Entry)**
To start recording, press the two buttons simultaneously.

❷ **CH UP and Down Buttons**

❸ **REWIND**
When this button is held down during playback VTR get into REVIEW playback mode.

❹ **FF**
When this button is held down during playback VTR get into CUE playback mode.

❺ **PLAY**

❻ **STOP**

❼ **PAUSE/STILL**

❽ **STILL ADV**

Note:
Infra-red beam should be transmitted directly to the Receiver.
Sunlight may interfere the beam.

- The remote sensor lightsensing angle is about 60°.
- The unit should be used within a range of about 7 meters from the front of the VTR.

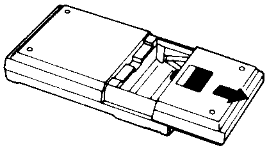
Power Source of Infra-red Remote Controller

■ The Infra-red Remote Controller is powered by IEC "R6" size batteries. The life of the batteries is about a year although it depends on the number of times the unit is used. Replace or inspect the batteries once a year.

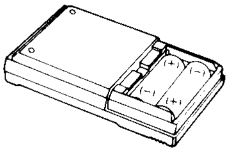
BATTERY REPLACEMENT CAUTION

- Load the new batteries with their polarities (⊕ and ⊖) aligned properly.
- Do not heat, disassemble or short-circuit the old batteries.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not mix old and new batteries. (Also never mix alkaline batteries with manganese batteries.)

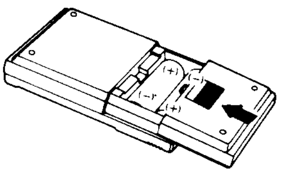
Load the batteries as follows:



❶ Remove the Battery Compartment lid.



❷ Place two batteries in the Battery Compartment as indicated inside the Battery Compartment.



❸ Replace the lid.

ORDER NO. VRD-8306-430

Service Manual

Video Cassette Recorder

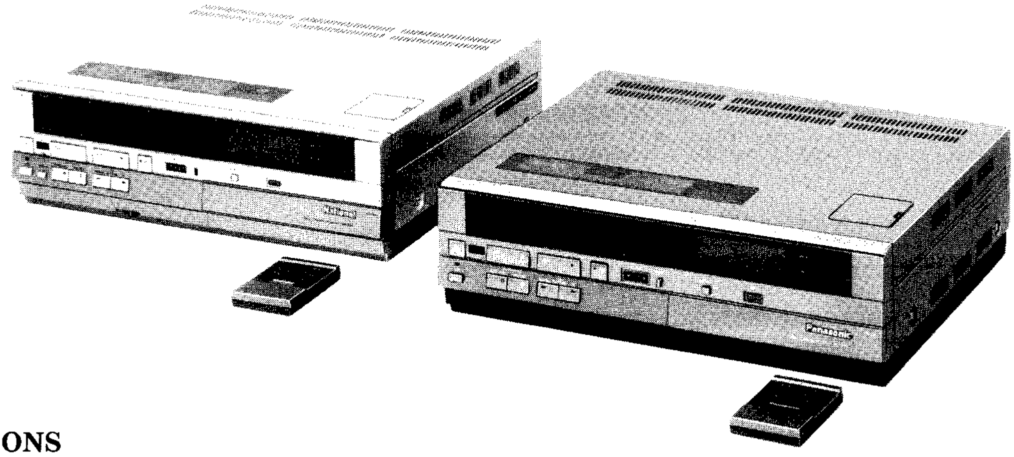
National/Panasonic VHS

NV-600-E -EN

Vol. 2

Mechanical Adjustment Procedures

Electrical Adjustment Procedures



SPECIFICATIONS

Power Source:	220V AC 50/60Hz (NV-600-E) 110/220V AC 50/60Hz (NV-600-EN)
Power Consumption:	Approx. 38 watts
Television System:	CCIR: 625 lines, 50 fields PAL colour signal
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Colour signal: converted subscarrier phase shift recording
Audio Track:	1 track
Tape Format:	Tape width 12.7mm high density tape
Tape Speed:	23.39mm/s
Record/Playback Time:	240min. with NV-E240
FF/REW Time:	Less than 4.5min. with NV-E180
Heads:	Video: 3 rotary heads 1 pair for normal recording and playback (R-L Head) 1 pair for trick play (L-L′ Head) (field still) Audio/Control: 1 stationary head Erase: 1 full track erase
Input Level:	Video: VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminated Audio: LINE IN jack (Phono jack) More than −20dB, 50kΩ TV Tuners: VHF CH2~CH12 UHF CH21~CH69
Output Level:	Video: VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminated Audio: LINE OUT jack (Phono jack) −6dB, less than 1kΩ RF Modulated: UHF CH36 ± 4 (NV-600-E) VHF CH3/CH4 (NV-600-EN) 76dBμ 75Ω unbalanced
Weight:	9.8kg
Dimensions:	430(W)×129(H)×373(D)mm
Accessory Supplied:	1 pc. DIN-RF Cable VJA0130 1 pc. Video Cassette Tape (NV-600-EN only) 1 pc. Wireless Remote Controller, (VSQ0305; NV-600-E) (VSQ0306; NV-600-EN)
Optional Accessories:	Video cassette tape: NV-E240 Approx. 344m, 240min. NV-E180 Approx. 258m, 180min. NV-E120 Approx. 174m, 120min. NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

SPECIFICATIONS .... Cover
MECHANICAL ADJUSTMENT PROCEDURES 2- 1
 DISASSEMBLY OF CABINET PARTS AND P.C.BOARDS 2- 1
  1. Disassembly Flowchart 2- 1
  2. Detailed Disassembly Method 2- 1
  3. P.C.Board Opening Method 2- 2
 ADJUSTMENT PROCEDURES 2- 4
  1. Position Adjustment of Cassette Guide Pin 2- 4
  2. Confirmation of Pressing Force and 2- 4
   Position Adjustment of Pressure Roller 2- 4
  3. Confirmation of Tape Speed 2- 4
  4. Replacement of Upper Cylinder Unit 2- 5
  5. Replacement of DD Cylinder Unit 2- 6
  6. Adjustment of Safety Switch 2- 6
  7. Position Adjustment of Tension Post 2- 7
  8. Confirmation/ Adjustment of Brake Tolque 2- 8
  9. Confirmation of Takeup Torque 2- 8
  10. Measurement and Adjustment of Back Tension 2- 9
  11. Height Adjustment of Reel Tables 2-10
  12. Height Adjustment of Tape Guide Post 2-11
  13. Height Adjustment of Pull Out Post 2-12
  14. Tape Interchangeability Adjustment 2-13
  15. Adjustment and Confirmation of A/C Head 2-14
  16. Adjustment of Cam Gear and Mode Select Switch 2-16
  17. Adjustment of Clearance Between
   Counter Magnet and Hall IC 2-19
  18. Gear Assembling of Cassette Compartment 2-19
 SERVICING FIXTUERS & TOOLS 2-22
ELECTRICAL ADJUSTMENT PROCEDURES 2-23
 1. Test Equipment 2-23
 2. Adjustment Procedures 2-23
  2-1. Power Supply Section 2-23
  2-2. Servo Section 2-24
  2-3. Luminance & Chrominance Section 2-29
  2-4. Audio Section 2-35
  2-5. Timer Decoder Section 2-36
  2-6. Timer Operation Section 2-37
  2-7. TV Demodurator Section 2-38
 LOCATION OF TEST POINTS AND CONTROLS 2-41

MECHANICAL ADJUSTMENT PROCEDURES

DISASSEMBLY OF CABINET PARTS AND P.C. BOARDS

1. DISASSEMBLY FLOWCHART

This flowchart indicated disassembly steps of the cabinet parts in order to find the item(s) necessary for servicing.

When reassembling, perform the step(s) in the reverse order.

Notes:

1. When removing the Front Panel, Work with care not for breaking the locking portion of the panel.

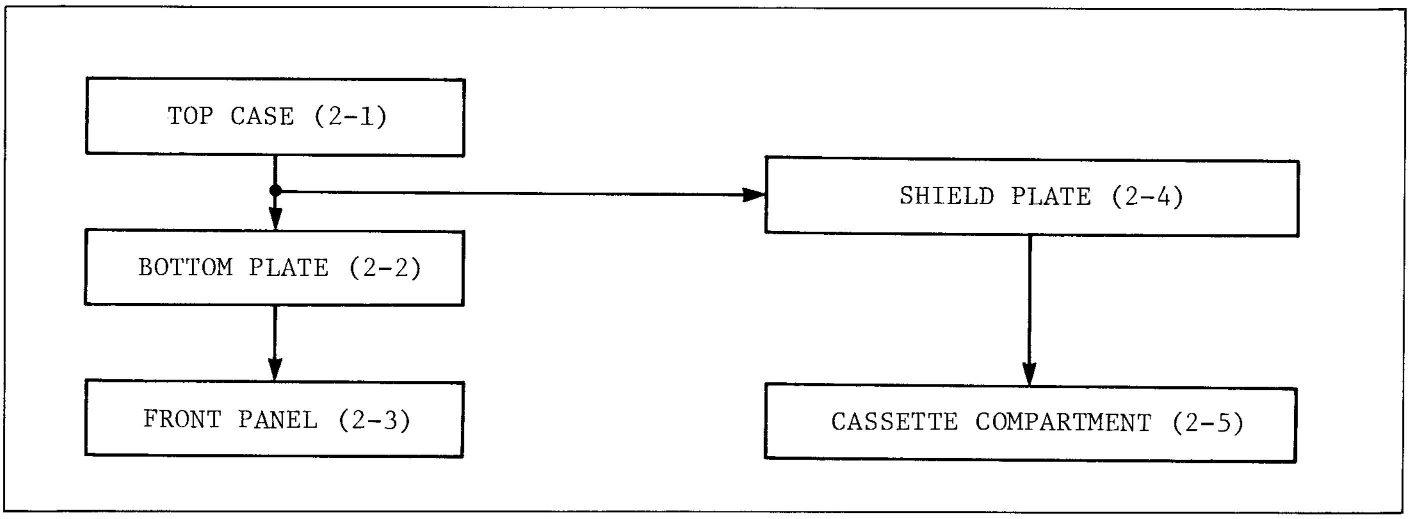

TOP CASE (2-1)
SHIELD PLATE (2-4)
BOTTOM PLATE (2-2)
FRONT PANEL (2-3)
CASSETTE COMPARTMENT (2-5)

Fig. M1

2. DETAILED DISASSEMBLY METHOD

2-1. Removal of Top Case

Remove the 4 screws (A). Then carefully lift the rear of case to remove.

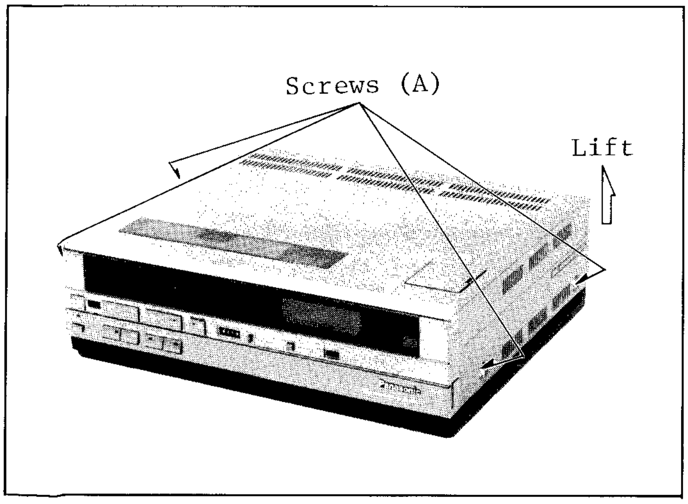

Screws (A)
Lift

Fig. M2

2-2. Removal of Bottom plate

Place the deck up side down so the bottom side face upward.
Then remove the 9 screws (B) to remove.
Note:
Place the cushion under the deck for not being damaged the top portion of the deck.

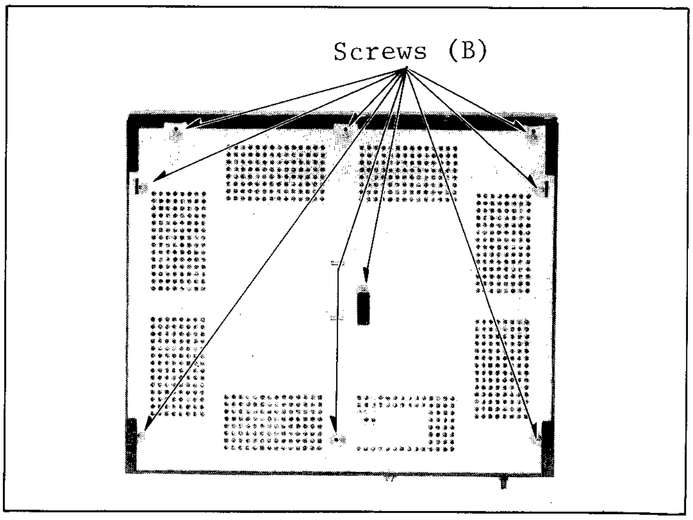


Fig. M3

2-3. Removal of Front Panel

Remove 3 screws (C) and unlock the 6 locking portions (D).
Then hold the top portion of the panel and turn it toward the front of the deck to remove.

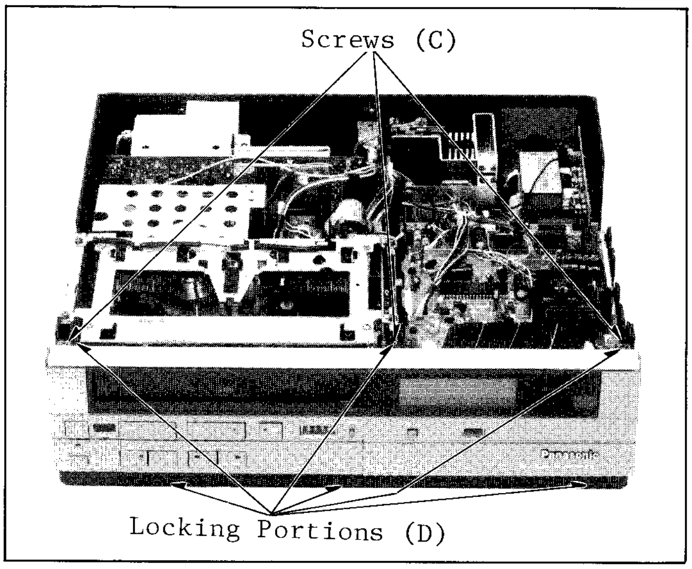

Screws (C)
Locking Portions (D)

Fig. M4

2-4. Removal of Shield Plate

Loosen 5 screws (E) and remove the Shield Plate.

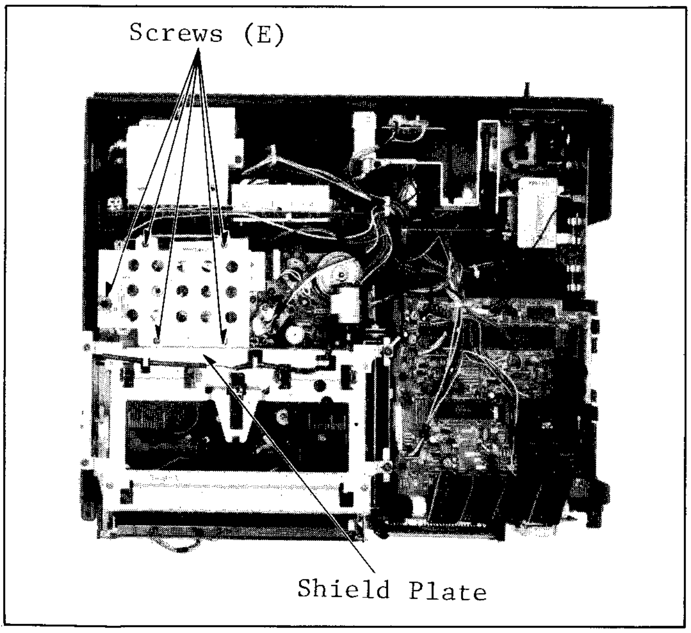

Screws (E)
Shield Plate

Fig. M5

2-5. Removal of Cassette Compartment

Disconnect the connector P1510 from the Front Loading Motor Connection P.C. Board, and remove 4 screws (F).
Then carefully pull out the Cassette Compartment.

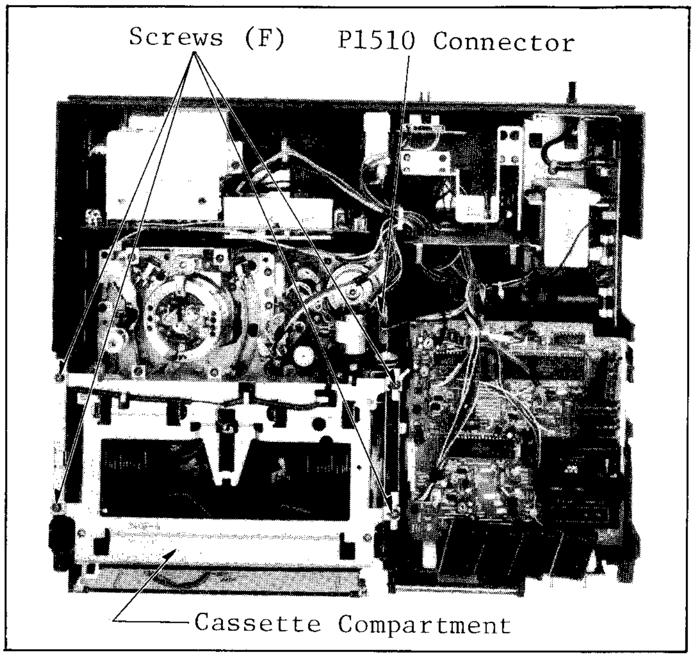

Screws (F)
P1510 Connector
Cassette Compartment

Fig. M6

3. P.C. Board Opening Method

3-1. Opening of the Operation P.C. Board Unit and the Main P.C. Board Unit

1. Remove the Top Case, Bottom Plate and the Front Panel. (Refer to Detailed DISASSEMBLY METHOD Item 2-1, 2-2 and 2-3.)
2. Remove 2 screws (A), and remove the Operation P.C. Board Unit.

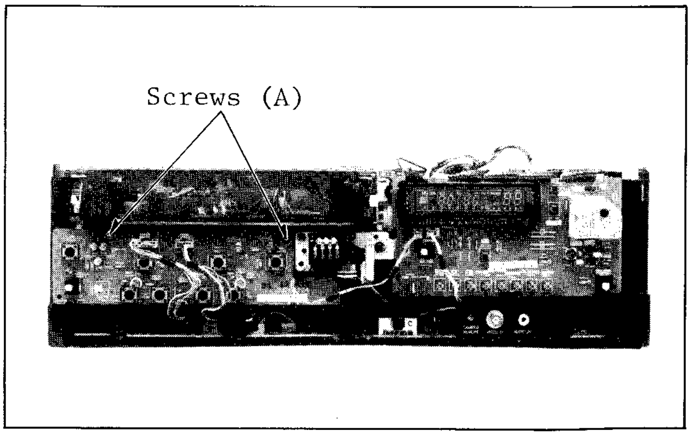


Fig. M7

3. Remove the 7 screws (B), and carefully unlock the 4 locking tabs (C).
Then open the Main P.C. Board Unit.

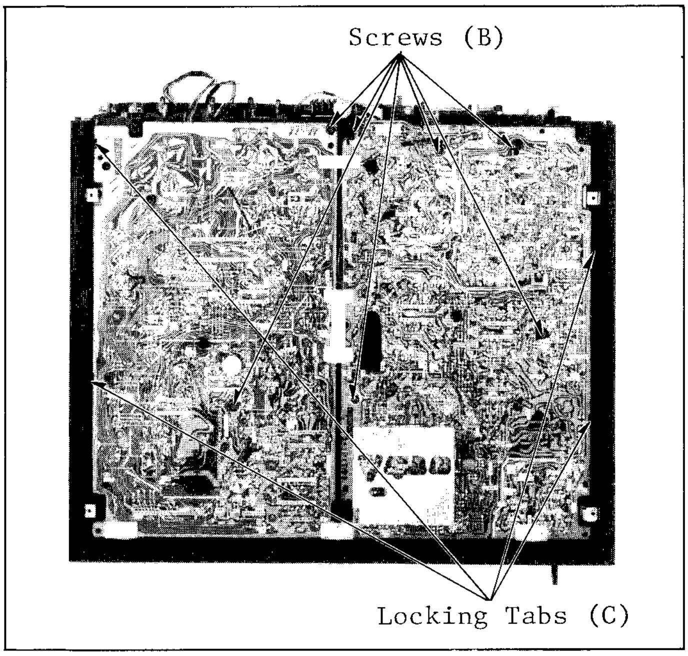

Screws (B)
Locking Tabs (C)

Fig. M8

3-2. Opening of the Timer Decoder P.C. Board Unit and the Timer Operation P.C. Board Unit.

1. Remove the Top Case, Bottom Plate and the Front Panel. (Refer to Detailed DISASSEMBLY METHOD Item 2-1, 2-2 and 2-3.)
2. Unlock the 4 locking tabs (D), and turn the Timer Decoder P.C. Board Unit to front side of the deck till the 2 locking portions (E) are unlocked.

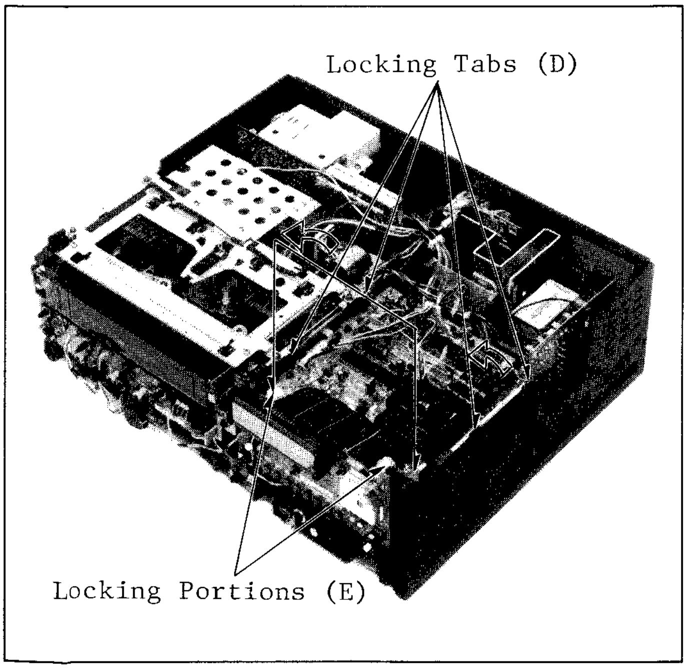

Locking Tabs (D)
Locking Portions (E)

Fig. M9

3. Next, hold and pull out the 2 locking tabs (F), and open the Timer Decoder P.C. Board Unit and Timer Operation P.C. Board Unit

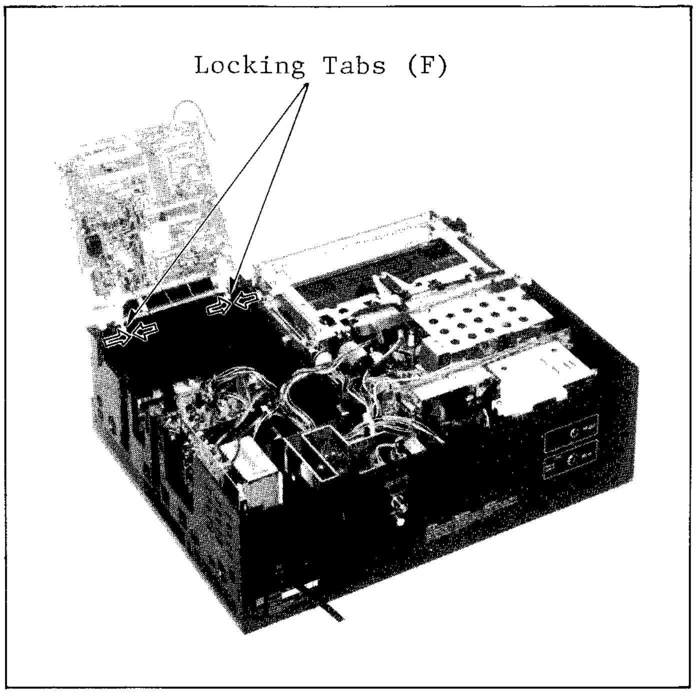

Locking Tabs (F)

Fig. M10

1. Position Adjustment of Cassette Guide Pin

This adjustment is required only when the cassette guide pin was replaced or it's mounting screw was loosened.

Equipment Required:
Capstan Reference Plate ... (VFK0141)

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Plate and the Cassette Compartment.
2. Slightly loosen the screw (A).

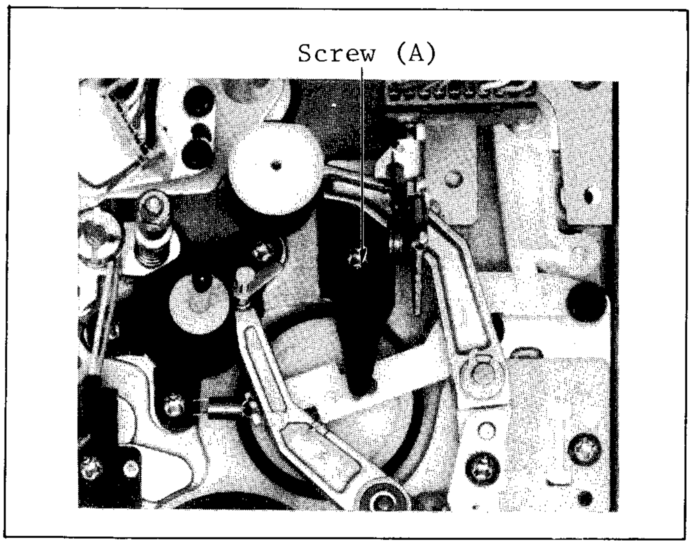


Fig. M11

Place the capstan Reference Plate (VFK0141), set the cassette guide pin into the hole of the plate.

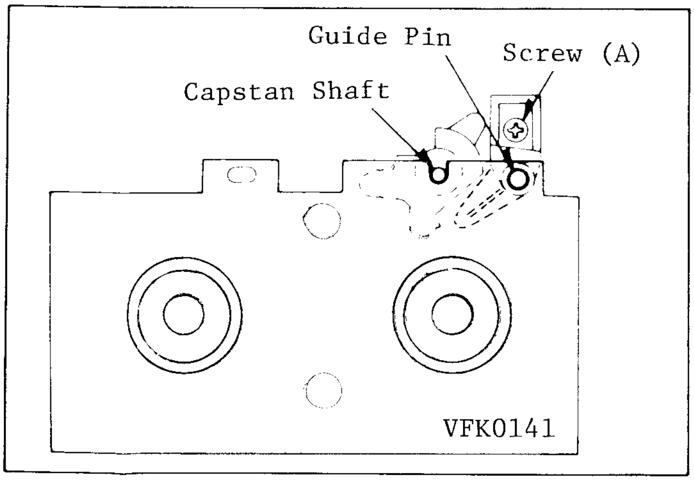


Fig. M12 Adjustment of Guide Pin

Move the fixture so the capstan shaft fits in the notch of the fixture and tighten the screw (A).

2. Confirmation of Pressing Force and Position Adjustment of Pressure Roller

Equipment Required:
Fan-Type Tension Gauge (VFK66)

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Plate and the Cassette Compart having a cassette tape in and with P1510 connector unit.
2. Push the Play button for setting the deck to Playback condition.
3. Set Fan-Type Tension Gauge to the part (A) of Main Pressure Arm Unit.
4. Press the Arm with the Gauge, in the direction indicated by the arrow as shown below.

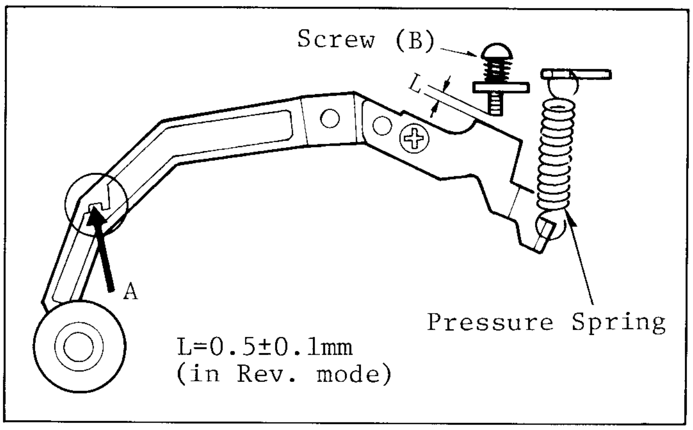


Fig. M13

5. Confirm that reading of the Tension Gauge is 1,600 ± 350 g at the moment of roller stop.
6. If it is out of spec, replace the pressure spring.
7. Place the deck in REV mode.
8. Turn screw (B) clockwise or counter-clockwise by the pliers, so that the clearance (L) becomes 0.5 ± 0.1mm.

3. Confirmation of Tape Speed

Equipment Required:
Frequency Counter
VHS Alignment Tape ... VFM8100H3D
Specification: 600 ± 1.5Hz

1. Remove the Bottom Plate, Top Case and the Front Panel.
2. Connect the frequency counter to TP2007 on the Servo Section (CAP FG)
3. Playback the monoscope portion of the alignment tape and wait until tape movement is well stabilized.

4. Read the frequency counter and confirm it is within the specification.
5. If it is out of spec., replace the capstan belt. Three types of capstan belts are available for the replacement as follows.

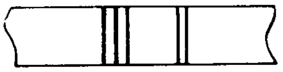
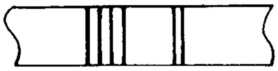
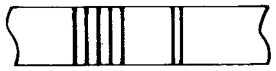
Part No.	Marking	Speed Range
VDV0121A		Slow ↑
VDV0121B		Center
VDV0121C		↓ Fast

Fig. M14 Replace the Capstan Belt

6. When to replace the Capstan Belt, first remove 2 screws (A) and Thrust Holder.
   Then change the capstan belt to obtain the correct speed.
   (VDV0121A, VDV0121B, VDV0121C)

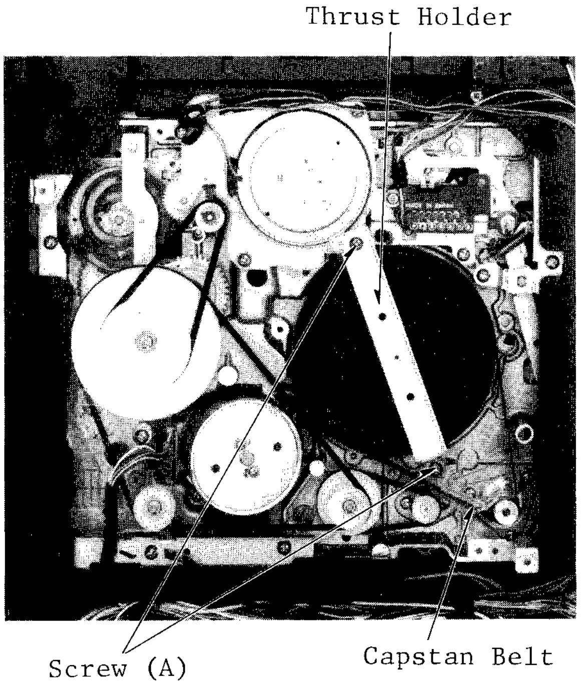


Fig. M15

Notes:
1. Do not put any oil or grease on the belts or pulleys.
2. When installing the capstan belt, make sure that the marked side comes outside.

4. Replacement of Upper Cylinder Unit

Work with extreme care when removing or replacing the upper cylinder unit. Do not touch video heads during servicing.

1. Remove Top Case and Shild Plate.
2. Remove the screw (A) and Discharge Brush Unit. And unsolder the 6 lead wires which are color coded to match indication on the head relay board.
3. Remove the 2 screws (B) and gently lift the upper cylinder unit from the shaft.
4. Before reinstalling a new one, clean the DD cylinder shaft and surface engaged with it on the upper cylinder with soft cloth dampened with freon liquid.
5. Reinstall the new one so that the colour code of 6 lead wires match the indication on the head relay board and tighten the 2 screws (B).
6. Resolder the 6 leads to head relay board and reinstall the Discharge Brush Unit.

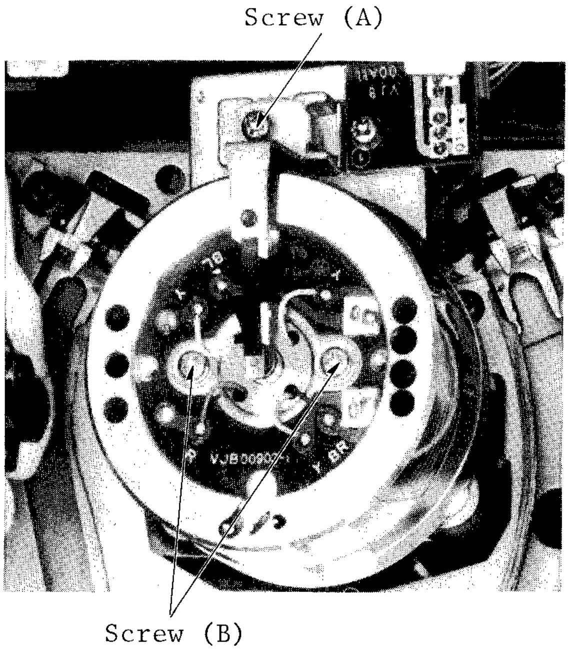


Fig. M16 Removal of Upper Cylinder

Note:
Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

5. Replacement of DD Cylinder Unit

Work with extreme care when removing or replacing the DD cylinder unit. Do not touch video heads during servicing.

1. Remove the Bottom Plate, Top Case, Front Panel and Shield Plate. Then open the Bottom P.C. Board.
2. Disconnect 2 connectors (P001 and P002), and remove screw (A) and power Transistor P.C. Board (1).

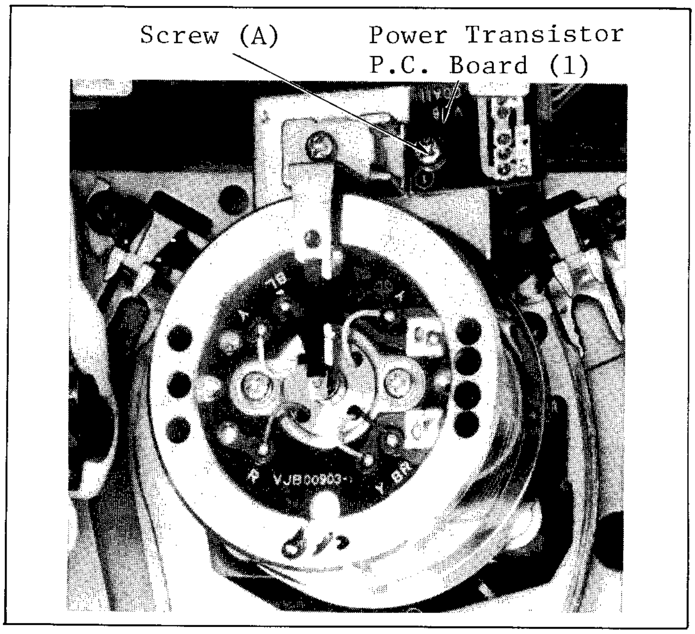


Fig. M17

3. Remove the DD Cylinder Unit by removing 3 screws (B). Since there is very little clearance between DD cylinder and chassis, remove the cylinder gently and carefully.
   The P001 is connected to the Servo Section and the P002 is connected to the Video Section.

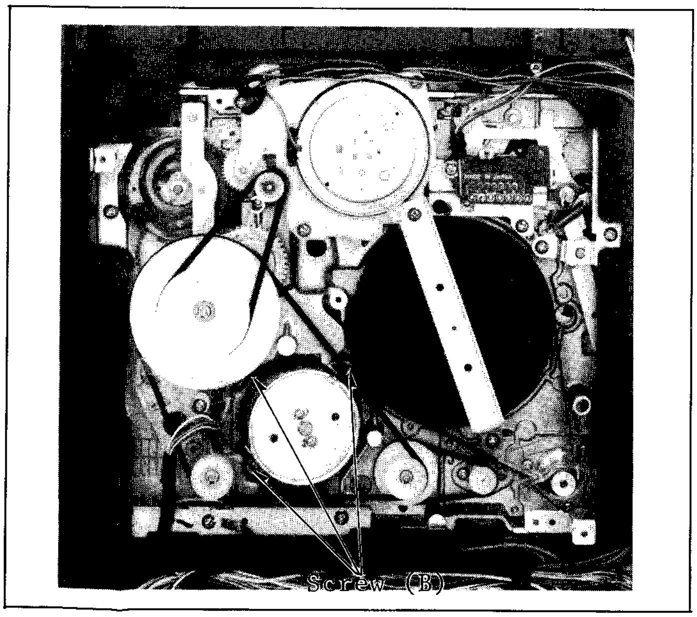


Fig. M18 Removal of DD Cylinder

For P002, first remove the shiled case and disconnect the P002.

Note:

Pay particular attention to how these wires are routed along the chassis so that proper lead dress can be restored when the DD cylinder is reinstalled.

4. Remove the upper cylinder unit from the DD cylinder and reinstall it on new one. To perform this step, refer to "REPLACEMENT OF UPPER CYLINDER UNIT" section.
5. Reinstall the new DD cylinder unit to the chassis and restore the leads, connect the P001 and P002, and recover the shield case.
6. Install the Power Transistor P.C. Board (1).

Note:

Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

6. Adjustment of Safety Switch

* Specification
When the cassette tape with tab is used, switch turns on and without tab switch is kept off.
* Equipment Required:
Cassette Holder Fixture (VFK0188)

1. Remove the Top Case, Bottom Plate. Front Panel, Cassette Compartment.
2. Remove the retaining ring by the retaining ring remover and pull out the Brake Arm (L) Unit.
3. Slightly loosen the 3 screws (A) and (B), and place the fixture.

Note:

While measuring, the weight of gauge should not rest on reel table.

4. Set the torque gauge to the Supply Reel Table, press the rewind button for rewind mode. And read the torque on gauge.

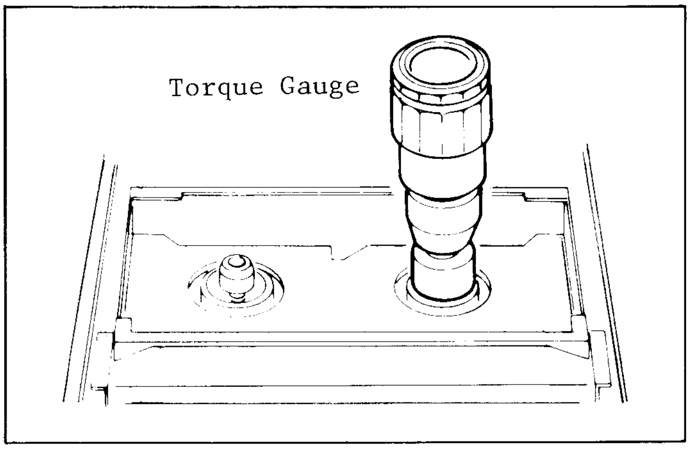


Fig. M25 Measuring Method

Note:

There are no-adjustment here.
If the torque readings are off considerably, rollers or idlers or reel tables may need replacement.

10. Measurement and Adjustment of Back Tension

A. Measurement Procedure

* Equipment Required:
Back Tension Meter (Tentelometer)
VHS Cassette Tape (120 minutes tape)

* Specification: 25 ∿ 30 g

1. Remove the Top Case and Shield Plate.
2. Pull the erase head in the direction indicated by the arrow and hold it by adhesive tape.
3. Play back the cassette tape from its beginning and wait until tape running has stabilized. (for approx. 10 to 20 seconds)
4. Insert tension meter in tape path and confirm reading.

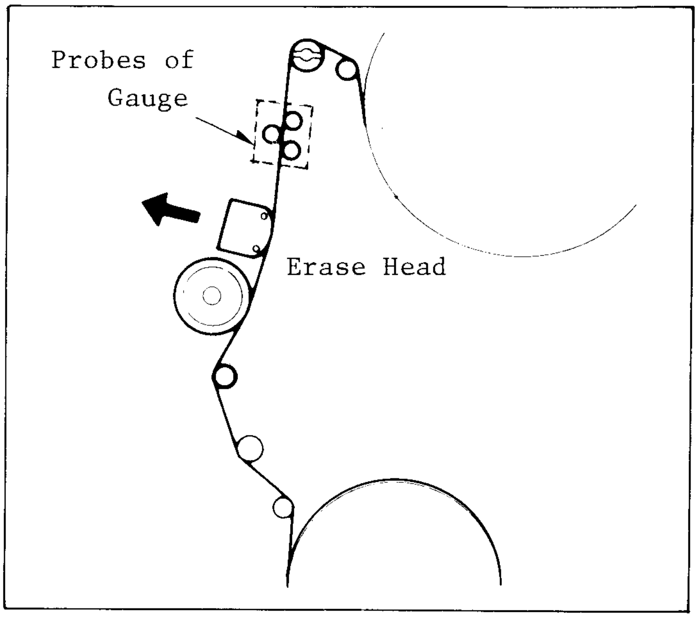


Fig. M26 Measurement of Back Tension

Notes:

1. Make sure that the three probes of the meter are all in good contact with tape, but out of contact with supply inertia roller while measuring.
2. It is recommended to be measured three times as tension meter is very sensitive.

(Adjustment Procedure of this section described on next page.)

B. Adjustment Procedure

* Equipment Required:
Fine Adjustment Screwdriver .... (VFK0136)

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Case and Cassette Compartment.
2. Loosen a screw (A) and insert the fine adjustment screwdriver into the hole (B).
3. Move the adjustment driver in either of direction indicated by the arrow to obtain the specified tension. Turn the driver clockwise to raise tension, counterclockwise to lower it.
4. Tighten the screw (A), and set the Cassette Compartment. Verify the tension with the meter once again.

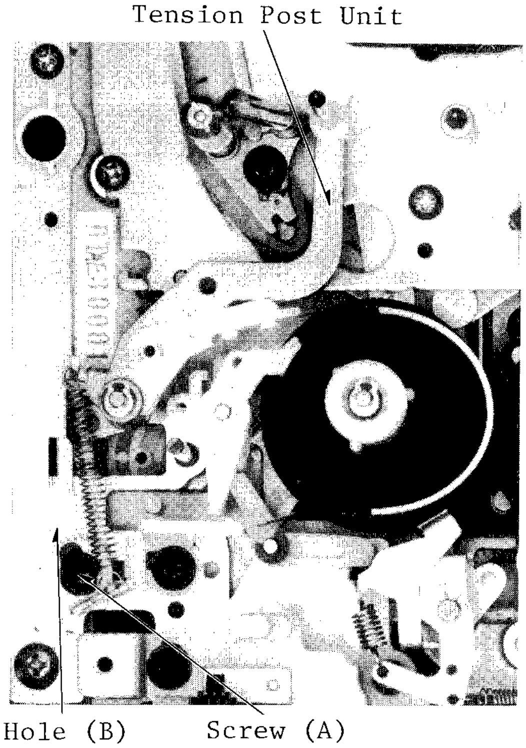


Fig. M27

5. After above the adjustment is completed, remove the adhesive tape.

11. Height Adjustment of Reel Tables

* Equipment Required:
Post Adjustment Plate .. (VFK0191)
Reel Table Height Fixture .... (VFK0190)
* Specification .... 0 ∿ 0.2mm

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Plate and Cassette Compartment.
2. Place the post adjustment plate, put the dial gauge on it and set the dial gauge to zero "0" with the condition that scraper of gauge touches the cut-out portion of the plate.

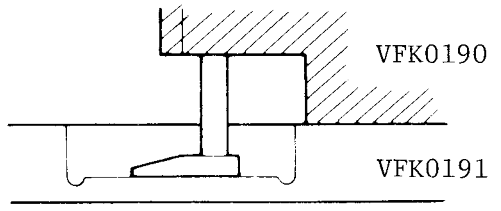


Fig. M28 Adjustment of Reel Table Height-(1)

3. Then measure the top portion of reel table and confirm the difference against the condition just performed in the former step. Also perform the same measurement and confirmation for other reel table.

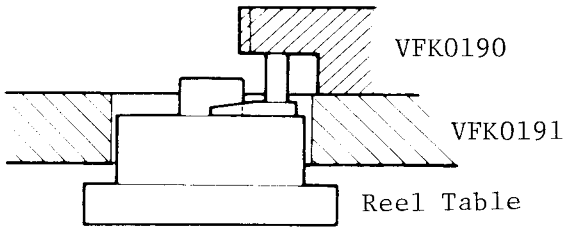


Fig. M29 Adjustment of Reel Table Height-(2)

4. If the difference is more than 0.1mm (high or lower), adjust the height of reel table to obtain the specified height.
5. For the adjustment, change the polyslider washer located under the reel table. The washers of following thicknesses are available.

Washer Thickness	Part No.
0.13mm	XWXV3Z6
0.25mm	XWXV3A6
0.5mm	XWXV3D6

Fig. M30

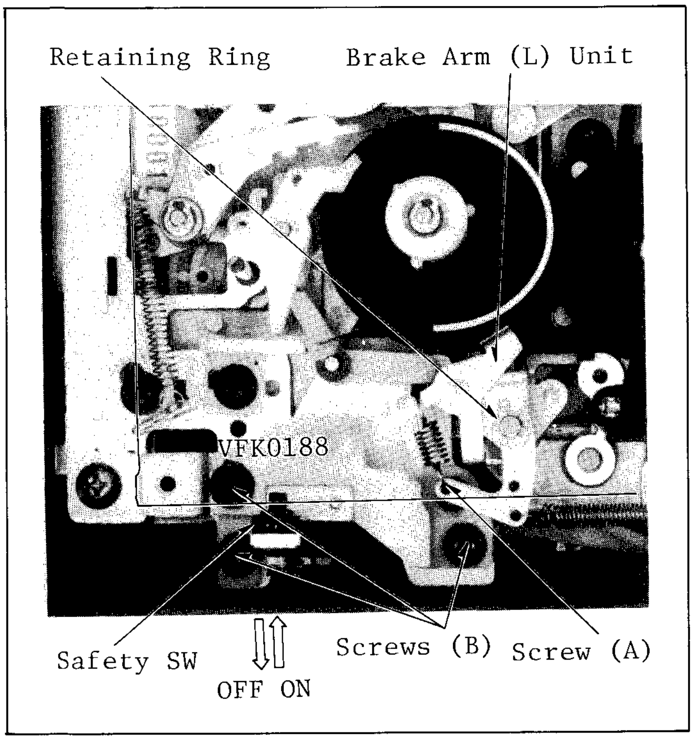


Fig. M19

4. Connect the oscilloscope to P6007-2 and set it to D.C. position.
5. Turn the switch base counterclockwise and then slowly turn it clockwise until the switch turns ON (Indication of the oscilloscope becomes low level from High level) then tighten the screws (A) and (B).
6. Install the Brake Arm (L) unit and install the retaining ring.
7. After the adjustment, confirm that the switch turns on by using a tape with safety tab and off without tab.

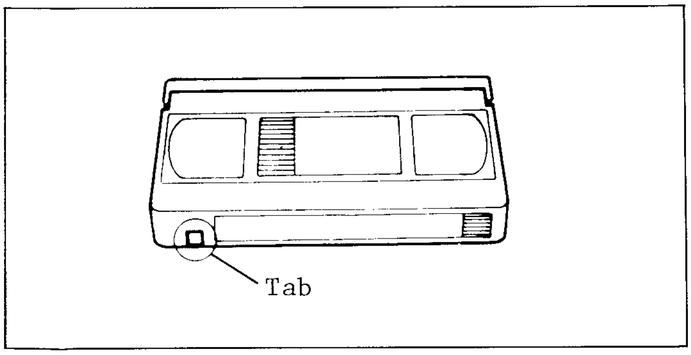


Fig. M20

7. Position Adjustment of Tension Post

* Equipment Required:
Tension Post Adjustment Plate .... (VFK0187)
Fine Adjustment Screwdriver .... (VFK0136)

1. Remove the top case, Bottom Plate, Front Panel, and cassette compartment with P1510 connector unit.
2. Insert a Cassette Tape, and Push the play button for loading. As soon as the loading is completed, take out the AC plug.
3. Place the adjustment plate and slightly loosen a screw securing the tension band bracket.
4. Insert the fine adjustment screwdriver into the hole and move the tension band bracket in either of direction so the tension post just touches the fixture.
5. After the adjustment, connect the AC plug for unloading.

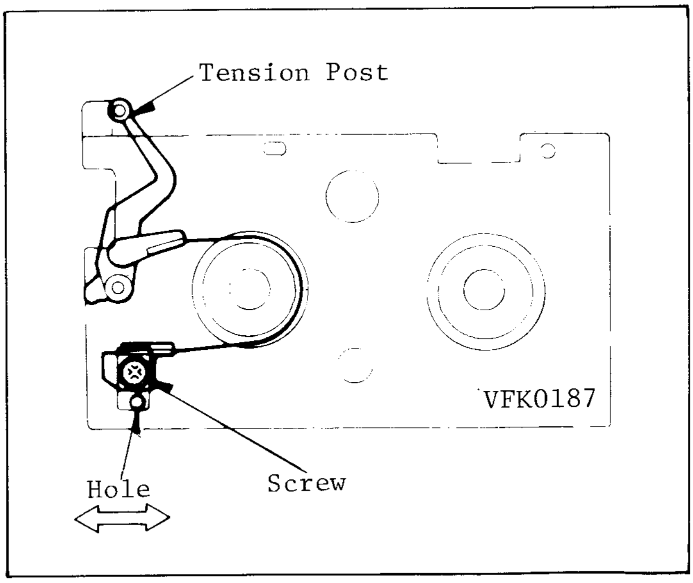
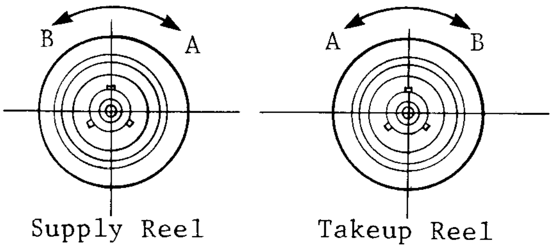


Fig. M21 Adjustment of Tension Post

8. Confirmation/Adjustment of Brake Torque

A. Confirmation Procedure
Equipment Required:
Torque Gauge .... (VFK0133)
Adaptor for Gauge ... (VFK0134)

Spec.



	A	B
Takeup	450 ∿ 800g-cm	70 ∿ 170g-cm
Supply	450 ∿ 800g-cm	70 ∿ 150g-cm

Fig. M22 Spec. of Brake Torque

1. Remove the Top Case, Bottom Plate, Shield Plate, Front Panel and the Cassette Compartment.
2. Attach the adaptor to the torque gauge and place the deck in STOP mode.
3. Place the torque gauge on the reel table.
   The weight of gauge should be free against the reel table.

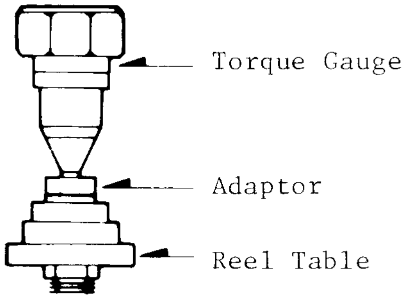


Fig. M23 Measuring Method

4. Turn torque gauge in the direction indicated in the Fig. M22 until the brake begins slipping.

B. Adjustment Procedure
To adjust the brake torque, change the notch.

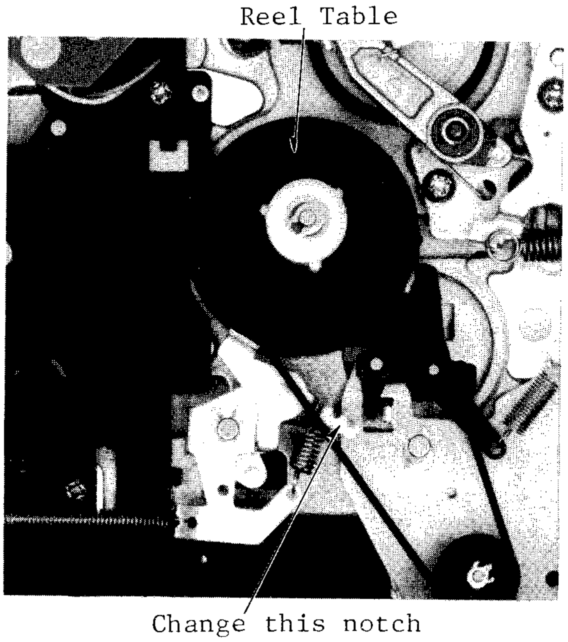


Fig. M24

Note:
If proper brake torque could not obtained by changing the spring position, clean the rotating surface of the reel table with soft cloth and confirm torque before replace it.

9. Confirmation of Takeup Torque

* Equipment Required:
Dial Torque Gauge ... (VFK0133)
Adaptor for Gauge ... (VFK0134)

* Specification
in PLAY mode ... 130 ∿ 180 g-cm
in F.F. .... more than 400 g-cm
in REW .... more than 400 g-cm

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Case and the Cassette Compartment with the P1510 connector unit.
2. Insert a cassette tape and attach the adaptor to the torque gauge.
3. Set a torque gauge to the Take-up Reel Table, push the play button and read torque on gauge. Also perform for F.F. mode by pushing the F.F. button.

12. Height Adjustment of Tape Guide Post

* Equipment Required:

Hex. Wrench, (0.9mm)	(VFK0146)
Post Adjustment Plate	(VFK0191)
Reel Table Height Fixture	(VFK0190)
Nut Driver	(Purchase locally)
Post Adjustment Screwdriver	(VFK0137)

1. Remove the Top Case, Bottom Plate, Front Panel, Shield Plate and Cassette Compartment, and place the adjustment plate.

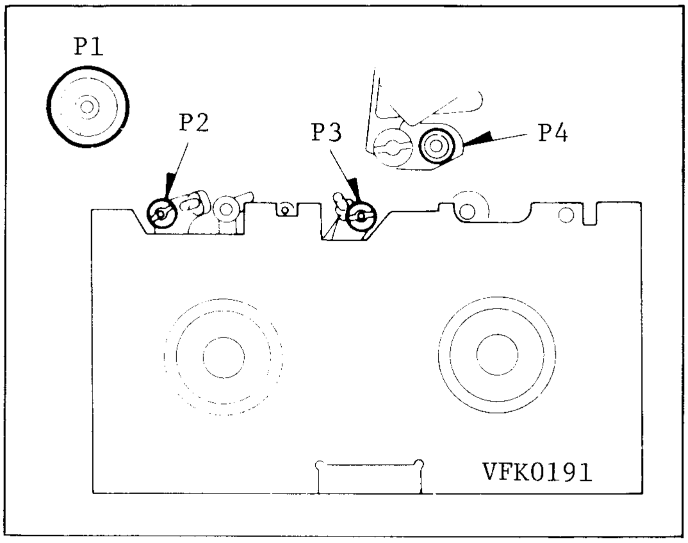


Fig. M31

2. First lower all posts so the condition of height becomes as shown. (Lower end of post, tape guide, should be lower than scraper.) Loosen a hex. screw located lower portion of posts (P2 & P3), then turn them.

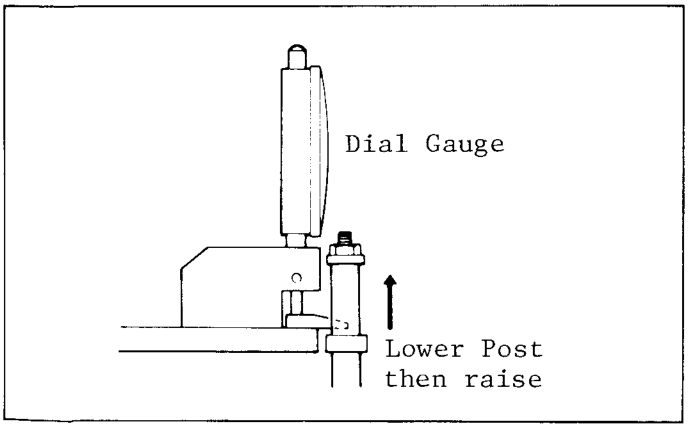


Fig. M32

3. Place the dial gauge on the adjustment plate and fit the scraper to the post. The condition to fit the scraper should be as shown. (The scraper of gauge should be fully lowered till it touches the plate).

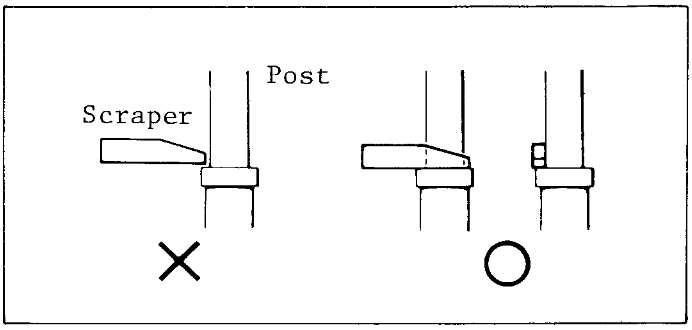


Fig. M33

4. Set the dial gauge to zero "0", and slowly raise the post until just the post is raised to touch the scraper. To adjust P1 and P4, use the nut driver. (The post cap on P4 can be removed by turning counterclockwise.) To adjust P2 and P3, use the post adjustment screwdriver.

Note:
Upon completion of adjustment, tighten hex. screws on the P2 and P3 also install the post cap on Post 4.

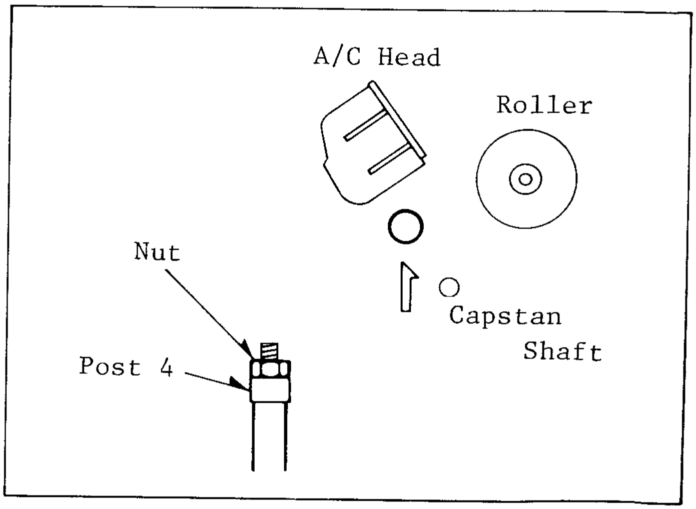


Fig. M34 Installation of Post Cap

After above the adjustment is completed, tighten hex. screws on the P2 and P3.

13. Height Adjustment of Pull Out Post

Notes:

1. The adjustment should be performed after the adjustment of P4 as the spec. is based on height of P4.
2. The adjustment should be performed in the loading completion mode.
3. Unless the replacement or adjustment of this post is required the adjustment nut should not be turned.

* Equipment Required:
Post Adjustment Plate ...... (VFK0191)
Reel Table Height Fixture .... (VFK0190)
Nut Driver .... (Purchase Locally)
* Specification .... 0.01±0.01mm

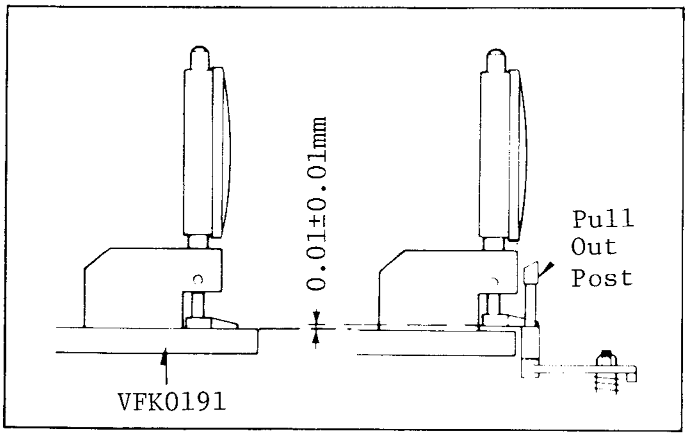


Fig. M35

1. Remove Top Case, Bottom Plate, Front Panel, Shield Plate and the Cassette Compartment with P1510 connector unit.
2. Turn power switch on, insert a cassette tape and push the play button for loading.
3. As soon as loading is completed plug off.
4. Place the adjustment plate, put the height fixture on the plate and set dial gauge to zero "0" with condition the scraper touches on the plate.

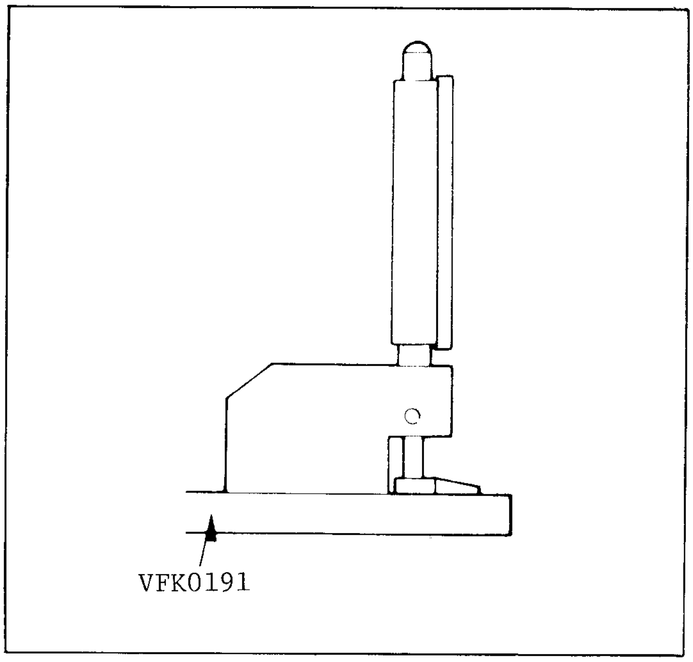


Fig. M36

5. First, slightly lower the post by turning the nut clockwise. Fit the scraper to the post so the condition becomes as shown.

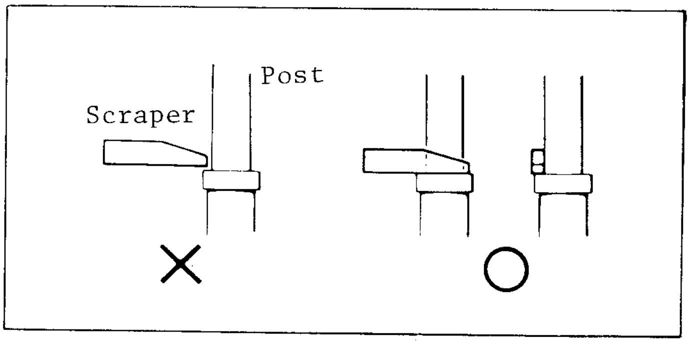


Fig. M37

6. Then slowly and slightly turn the nut till the gauge reads specified.
7. Plug in for unloading before reinstall the cassette compartment.

14. Tape Interchangeability Adjustment

* Equipment Required
Alignment Tape ..... (VFM8100H3D)
Post Adjustment
Screwdriver .... (VFK0137)

1. Remove the Top Case, Bottom Plate, and the Shield Plate.
2. Set the tracking control into the detent (fixed) position.
   And connect the oscilloscope to the TP3014.

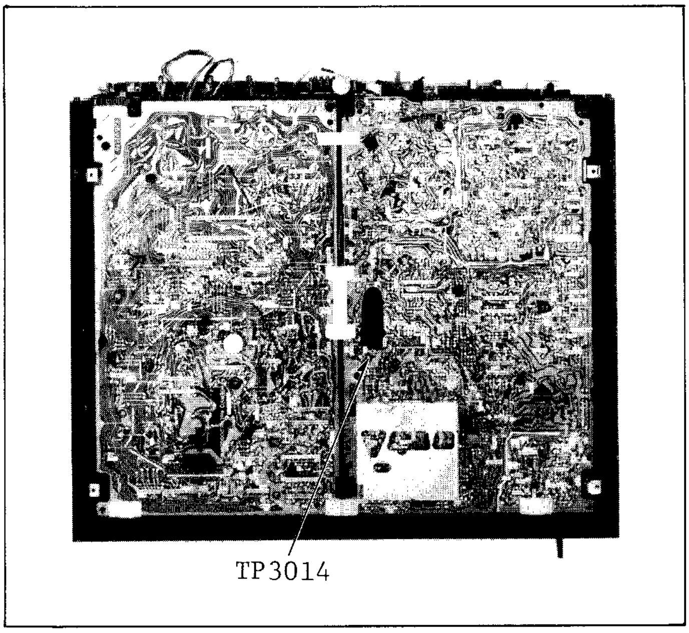


Fig. M38

3. Play back the alignment tape VFM8100H3D, adjust posts P2 and P3 by watching the scope display (Envelope of TP3014 on Main PC Board) so the RF envelope on the scope becomes as flat as possible.
   ($V1/V\text{-max.} \geq 0.7$, $V2/V\text{-max.} \geq 0.8$)

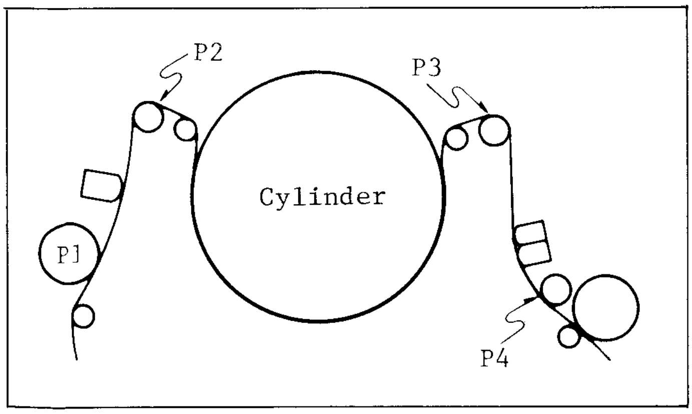

P2
P3
Cylinder
P1
P4

Fig. M39

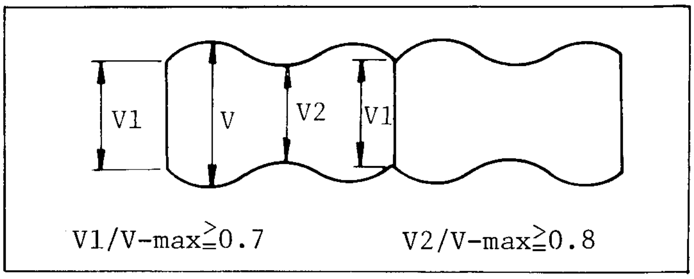

V1
V
V2
V1
V1/V-max≧0.7
V2/V-max≧0.8

Fig. M40

4. When the scope display is as follows, adjust the height of P2 as shown below.

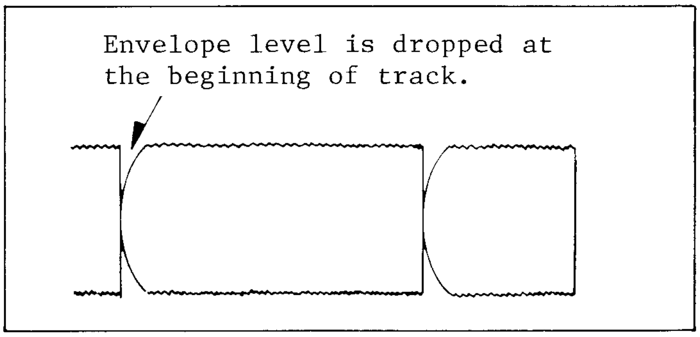

Envelope level is dropped at the beginning of track.

Fig. M41-(a)

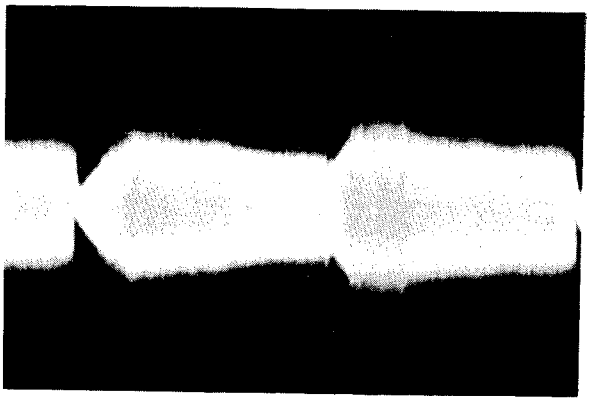


Fig. M41-(b)

5. When the scope display is as follows, adjust the height of P3 shown below.

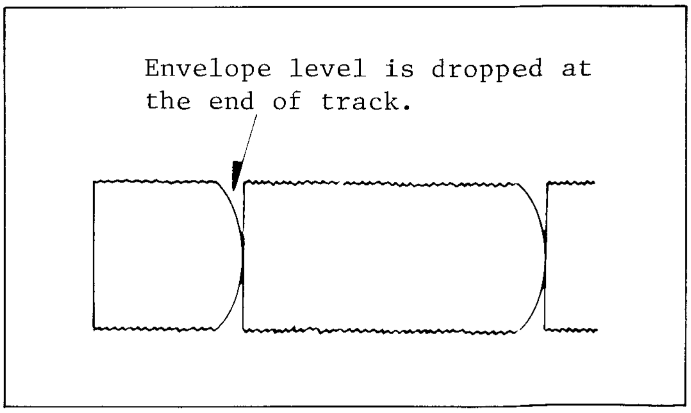

Envelope level is dropped at the end of track.

Fig. M42-(a)

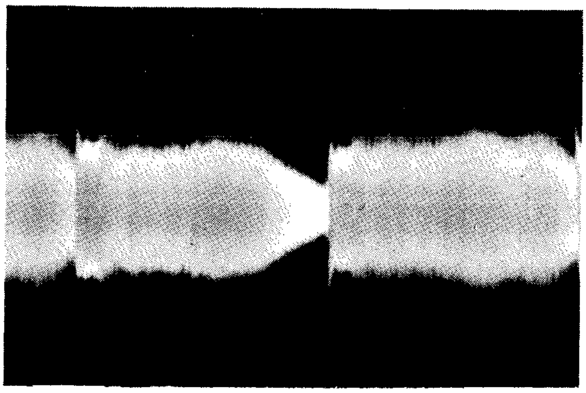


Fig. M42-(b)

6. The scope display with P2 and P3 adjusted correctly should become as shown below.

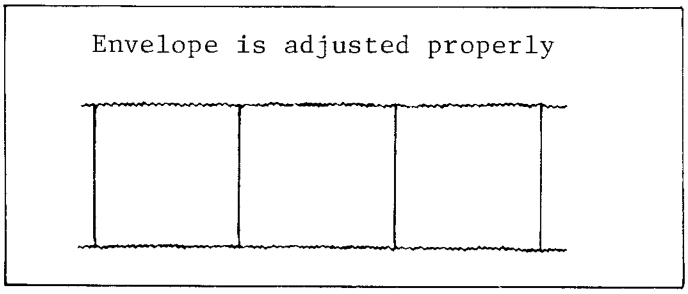


Fig. M43-(a)

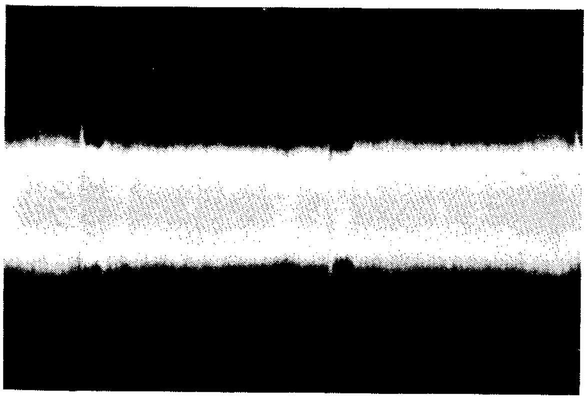


Fig. M43-(b)

7. When the adjustment is required, turn the top of post with the post adjustment screwdriver.

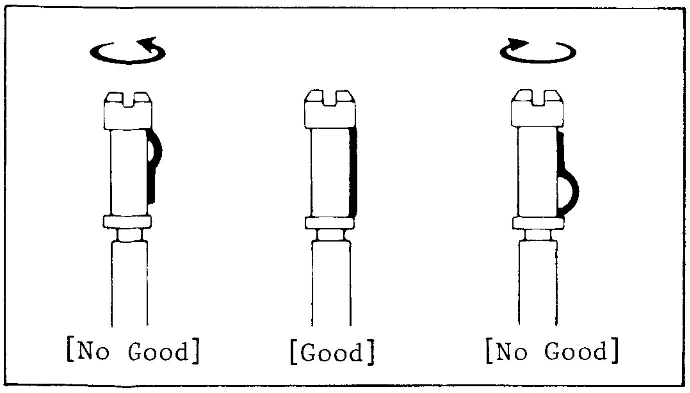


Fig.M44

15. Adjustments and Confirmations of A/C Head

15-1. Horizontal Position Adjustment of A/C Head

* Equipment Required:
H-Position Adjustment Screwdriver
.... (VFK0189)

1. Remove the Top Case and Bottom Plate.
2. Set the tracking control into the detent (fixed) position. And connect the oscilloscope to the TP3014.
3. Playback the alignment tape VFM8100H3D and confirm the envelope figure.
4. If the adjustment is required, set the H-position adjustment screwdriver into the slot of the adjustment nut and rotate in either of direction to obtain maximum envelope output.

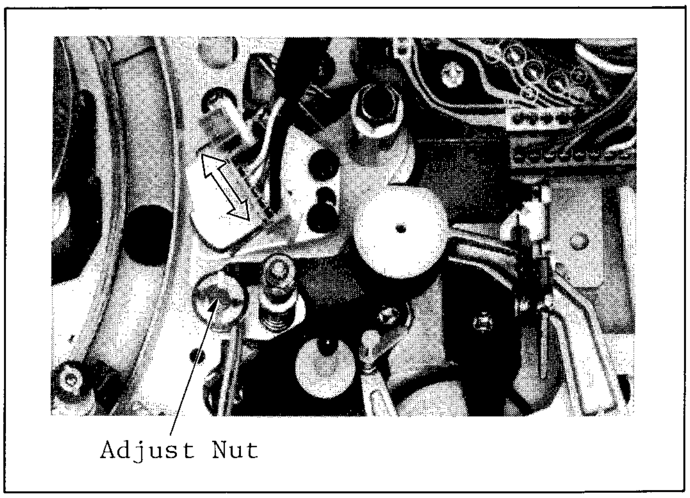


Fig. M45

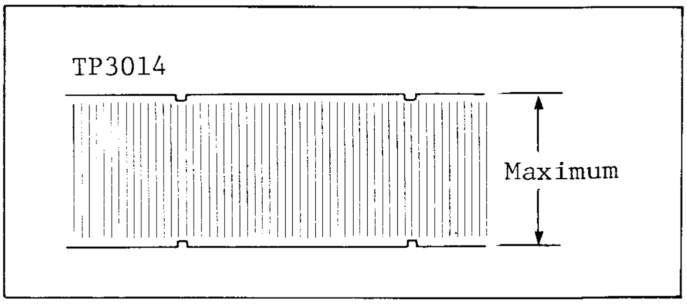


Fig. M46

15-2. Confirmation/Adjustment of A/C Head Height

A. Confirmation Procedure
Looking at the lower edge of the control head with the tape running, ensure the lower edge of tape runs along the lower edge of the control head.

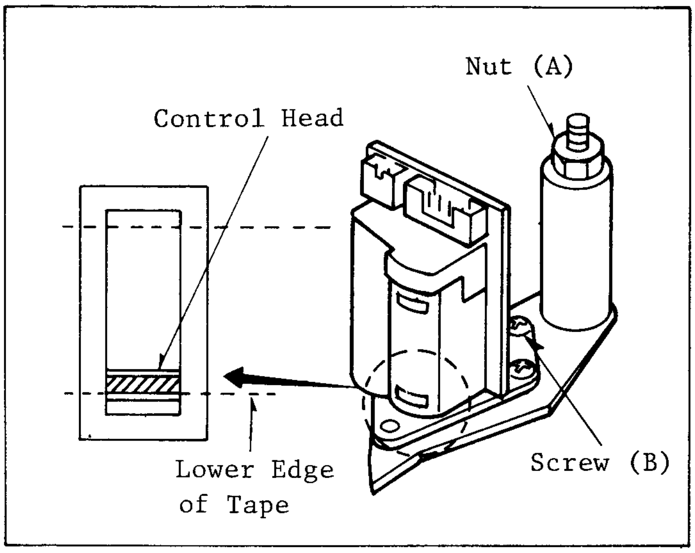

Nut (A)
Control Head
Lower Edge of Tape
Screw (B)

Fig. M47

B. Adjustment Procedure
Slightly turn the nut (A) in either directions to correct it. Turn clockwise to lower the head and counterclockwise to raise it.

Note:
Unless the A/C Head is replaced, this adjustment should not be done.

15-3. Tilt Adjustment of A/C Head

* Equipment Required:
Hex. Wrench, (1.5mm) .... (VFK76)

A. Pre-Adjustment Procedure
Removing the Top Case, playback the tape and confirm the tape runs between lower and top limiters of the post P4. If the lower edge or top edge of the tape turns with waving or firlling, then correct the tilt of the A/C head by turning screw (B) shown in Fig. M47.

Note:
Unless the post P4 is pre-adjusted, this pre-adjustment procedure should not be done. (Refer to the section of "Height Adjustment of Tape Guide Posts".

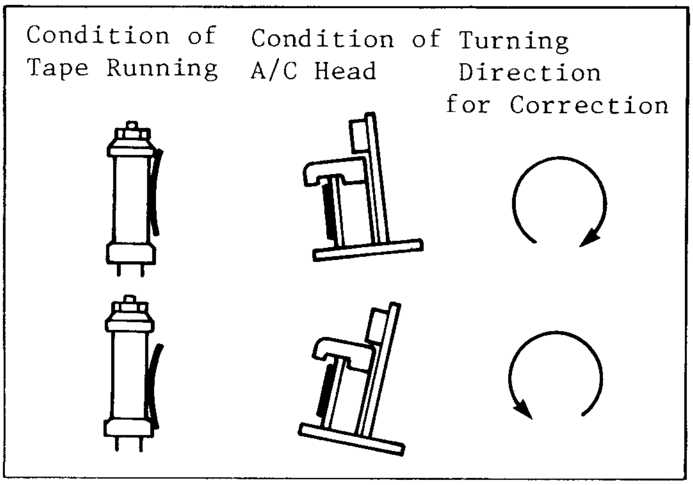

Condition of Tape Running
Condition of A/C Head
Turning Direction for Correction

Fig. M48 Tilt Pre-Adjustment

B. Adjustment Procedure

1. Remove the Top Case and Bottom Plate and connect the oscilloscope to Test Point TP3014 on the Video Section.
2. Playback the alignment tape, VFM8100H3D and adjust screw (B) so the RF envelope output level becomes maximum.

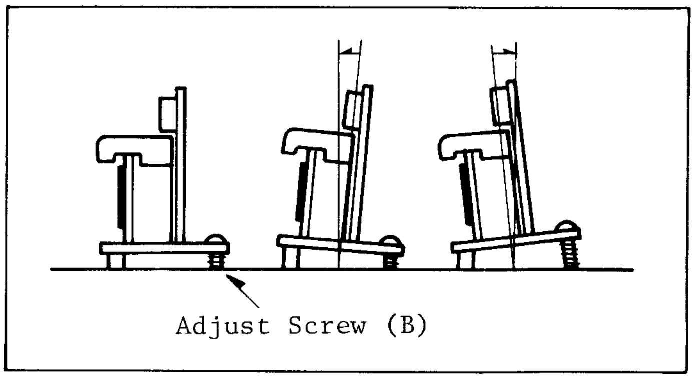

Adjust Screw (B)

Fig. M49

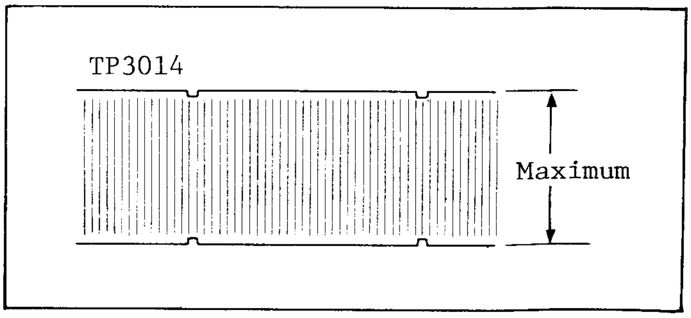

TP3014
Maximum

Fig. M50

15-4. Audio Azimuth Adjustment

* Equipment Required:
VHS Alignment Tape VFM8100H3D

1. Remove the Top Case and Bottom Plate, and connect the oscilloscope to the audio output on the rear of the deck.
2. Playback the alignment tape (6kHz, Audio) VFM8100H3D.
3. Adjust screw (C) without spring on the head base so the output level becomes maximum.

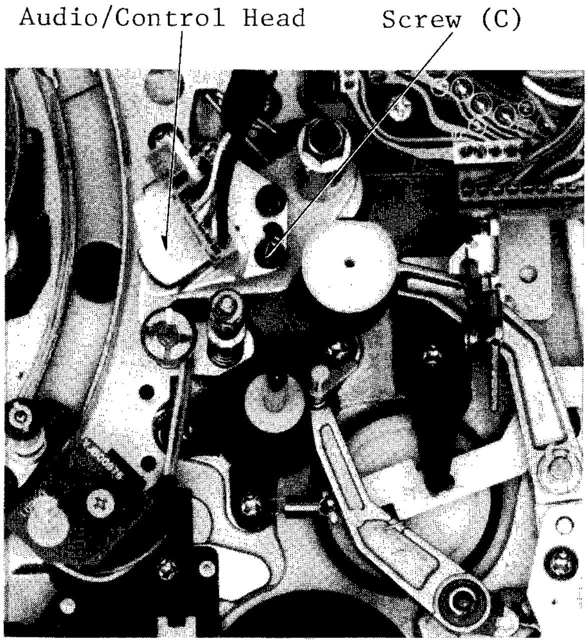


Fig. M51

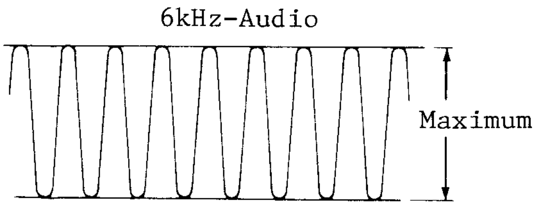


Fig. M52

16. Adjustment of Cam Gear and Mode Select Switch

General Condition:

The mechanism of this model is mostly engaged to the electrical circuit, System Control Circuit, through the mode select switch. Therefore the relation between the mode switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If the adjustment of this item is performed improperly, the deck will be unloaded or compulsorily stopped. And it will result being damaged at any mechanical or electrical parts.

A. Adjustment Procedures of Cam Gear

1. Turn Loading gear clockwise until the post 2 and 3 were fully unloaded. The small projection on the loading gear will be top portion under the condition of Unloading Completion.

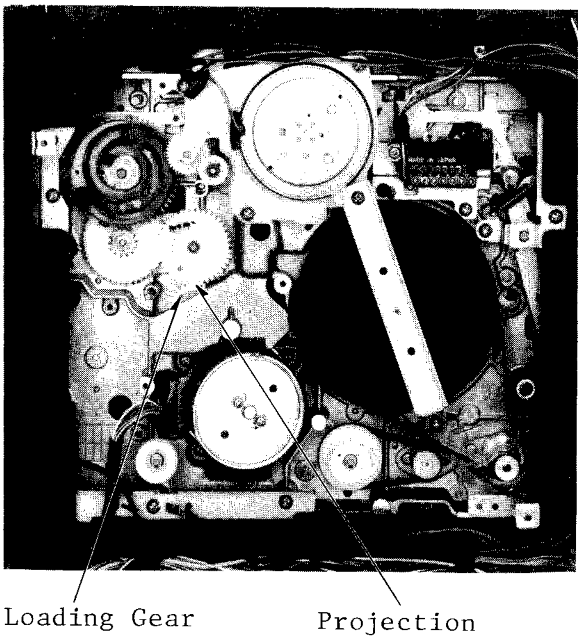


Fig. M53

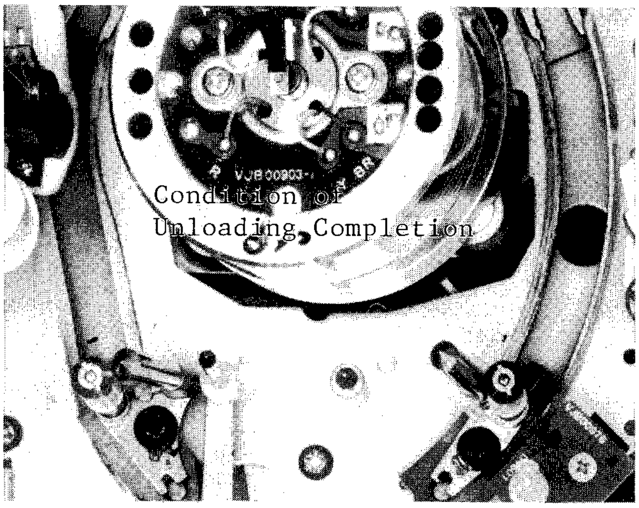

Condition of
Unloading Completion

Fig. M54

2. Install the action gear so the hole on the action gear meets the projection on the loading gear. Ensure that the loading gear is still in the condition of the unloading completion.

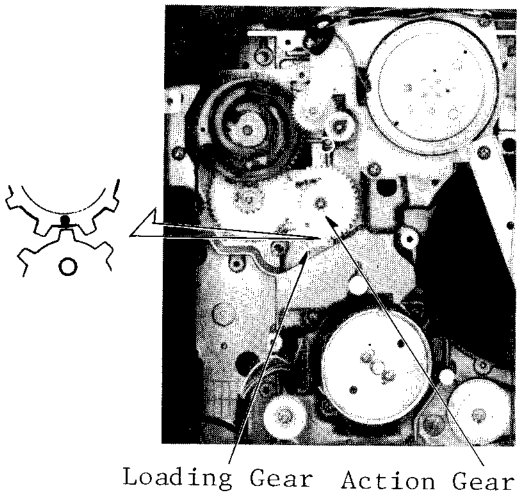

Loading Gear
Action Gear

Fig. M55

3. Slowly slide the main rod so the V-shaped mark meet the V-shaped mark of the mode select switch. With the result, main rod and mode select switch are in a position to be stop (unloading completion) mode.
4. Insert the cam gear so the hole (A) on the gear meets the hole on the main rod. To meet the two holes easier, use the small hex. wrench (VFK75) or metal pin.
   Also ensure the two V-shaped marks are fixed.

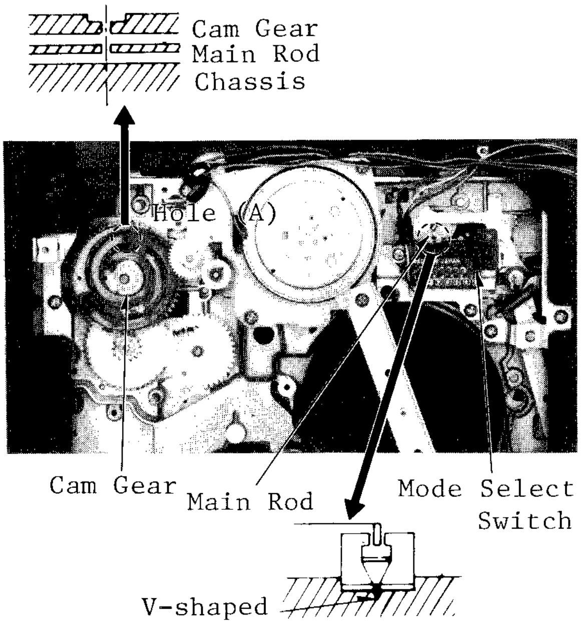

Cam Gear
Main Rod
Chassis
Hole (A)
Cam Gear
Main Rod
Mode Select
Switch
V-shaped

Fig. M56

5. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). And install 2 retaining rings to mount cam gear and sector gear.

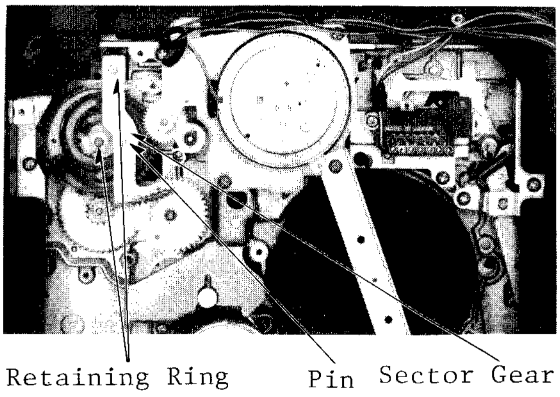

Retaining Ring
Pin
Sector Gear

Fig. M57

6. Final figure should become as shown below, and at the same time two V-shaped marks are fixed at the mode select switch.

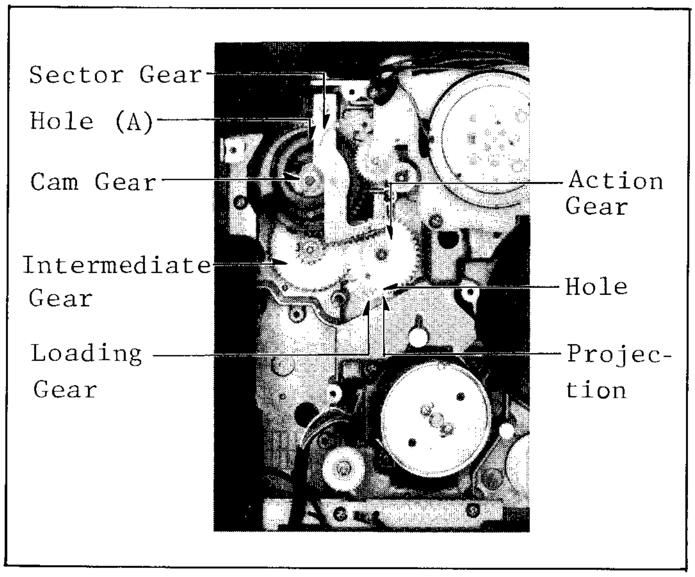

Sector Gear
Hole (A)
Cam Gear
Action Gear
Intermediate Gear
Hole
Loading Gear
Projection

Fig. M58

7. Install the gear protector on the Action Gear and tighten the nut for mounting it. And install the large pulley so the teeth of it contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it shown in Fig. M59.
8. Install the belts and belt cover and tighten a screw (C). Turn the large pulley in both direction to confirm the smoot-movement of this mechanism.

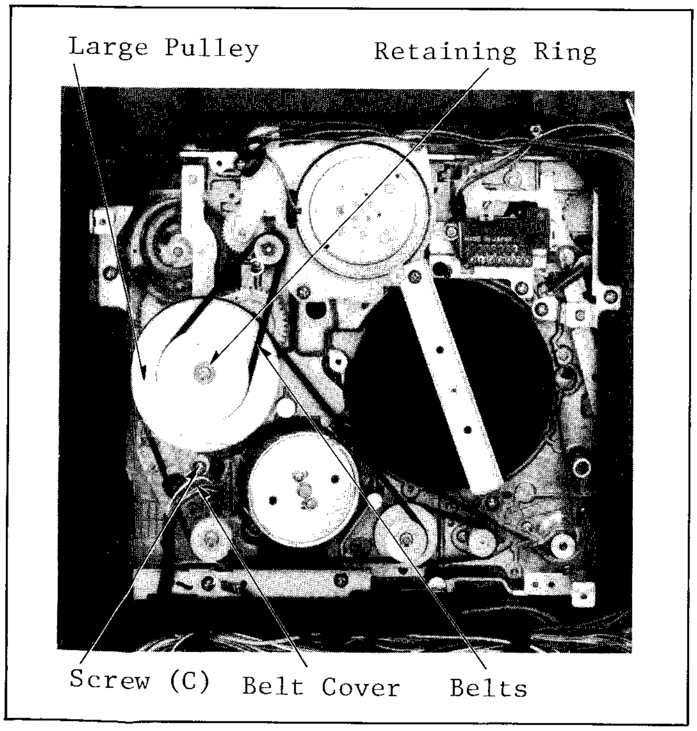

Large Pulley
Retaining Ring
Screw (C)
Belt Cover
Belts

Fig. M59

B. Adjustment Procedure of Mode Select Switch

1. Fix the main rod in the condition of unloading completion.
2. Slightly loosen two screws (A).
3. Adjust the position of the mode select switch so that the two V-shaped marks of the mode select switch just correspond at the same osition. Then tighten two screws (A).
4. Make sure that the movement of the unit is in normal condition.

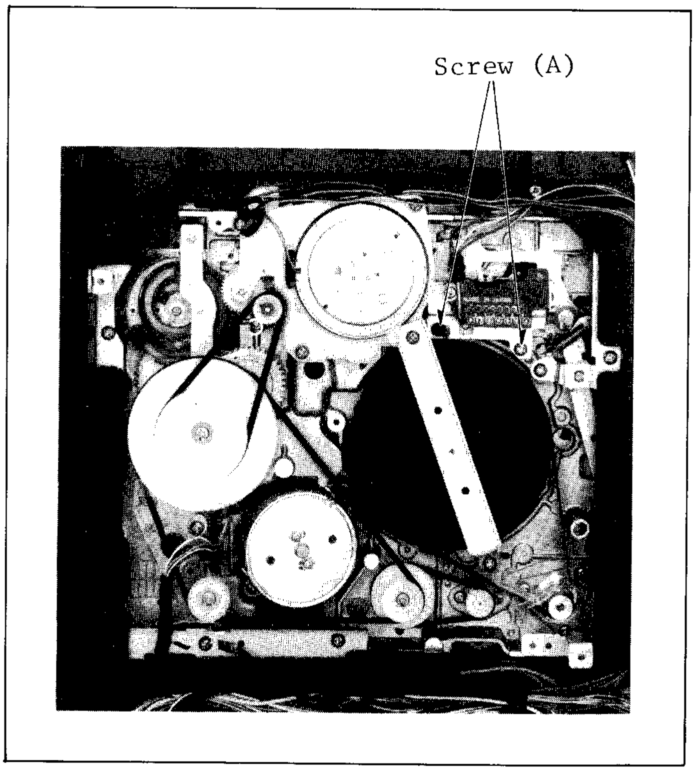


Fig. M60

17. Adjustment of Clearance between Counter Magnet and Hall IC

* Equipment Required:
Fine Adjustment Screwdriver
.... (VFK0136)
Specification: $0.5^{+0.2}_{-0}$mm

1. Loosen Screw (A), and insert 4 sheets of cover page of this volume (the thickness is approx. 0.6mm) between the Counter Magnet and the Hall IC.
2. Insert the fine adjustment screwdriver into the hole (B), and turn the adjustment screwdriver to counterclockwise. Then tighten the screw (A).

(Memory Counter Unit)

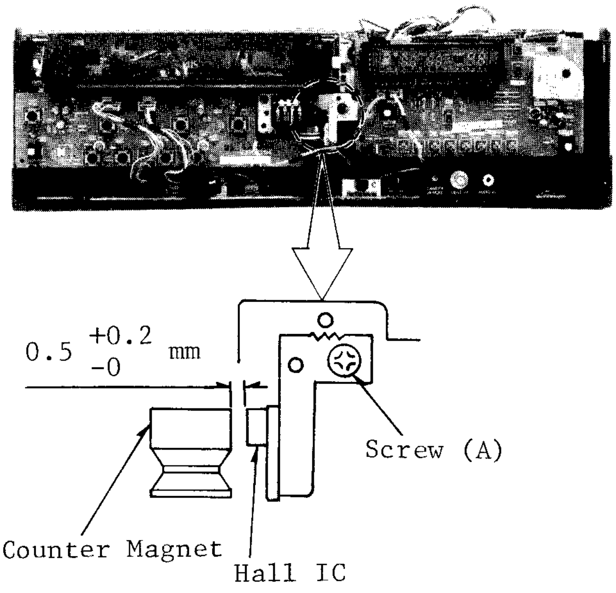

0.5 +0.2 -0 mm
Screw (A)
Counter Magnet
Hall IC

Fig. M61

18. Gear Assembling of Cassette Compartment

Note:
When the gears are assembled, apply the Morlytone Grease to the positions marked with crosses.

1. Install the Shaft Gears to the Main Shaft and hold them with E type Rings.

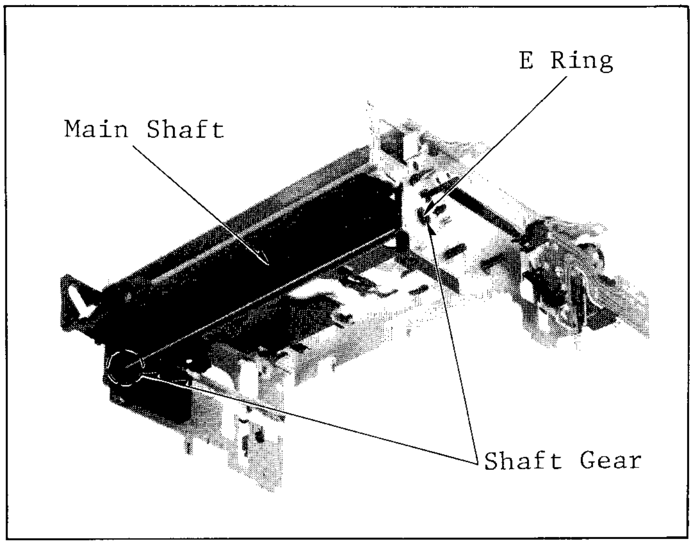

E Ring
Main Shaft
Shaft Gear

Fig. M62

2. Assemble the Warm Wheel, Clutch Gear, Clutch Spacer and Clutch Spring.

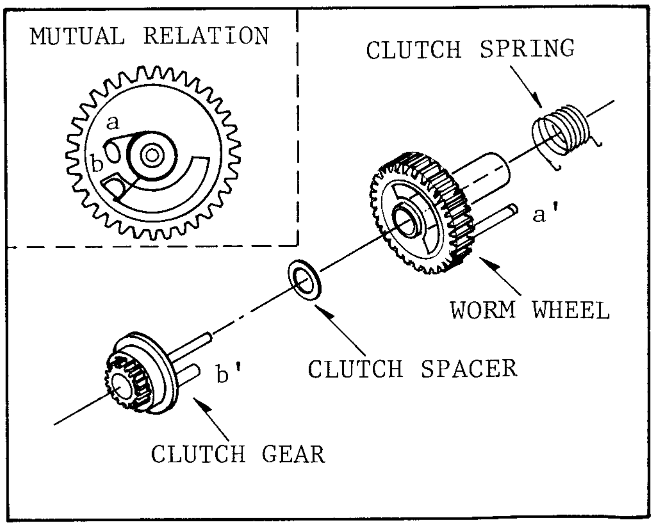

MUTUAL RELATION
a
b
CLUTCH SPRING
a'
WORM WHEEL
CLUTCH SPACER
b'
CLUTCH GEAR

Fig. M63

3. Assemble the Wiper Arm, Wiper Gear (R) and Wiper Spring (R).

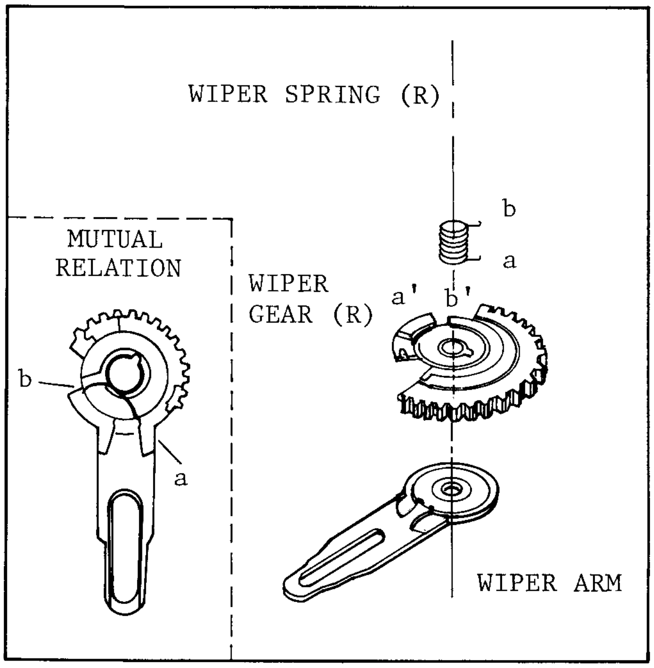

WIPER SPRING (R)
MUTUAL RELATION
b
a
WIPER GEAR (R)
a'
b'
b
a
WIPER ARM

Fig. M64

4. Assemble the Wiper Arm, Wiper Gear (L) and Wiper Spring (L).

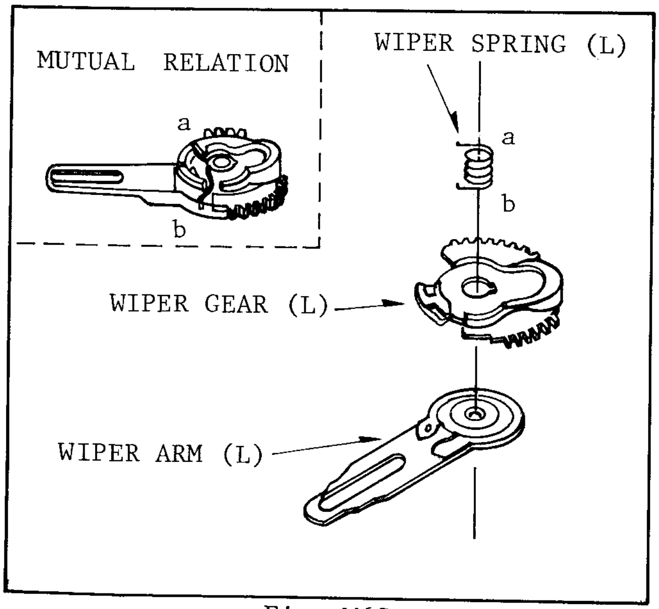

MUTUAL RELATION
a
b
WIPER SPRING (L)
a
b
WIPER GEAR (L)
WIPER ARM (L)

Fig. M65

5. Assemble the Gears on right side of Cassette Compartment.

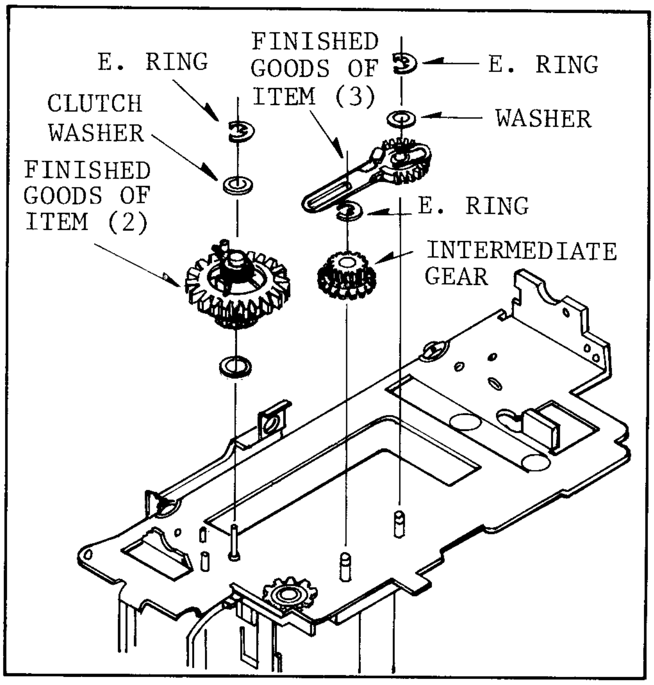

E. RING
FINISHED GOODS OF ITEM (3)
E. RING
CLUTCH WASHER
WASHER
FINISHED GOODS OF ITEM (2)
E. RING
INTERMEDIATE GEAR

Fig. M66

(Mutual Relation of Gears on Right Side)

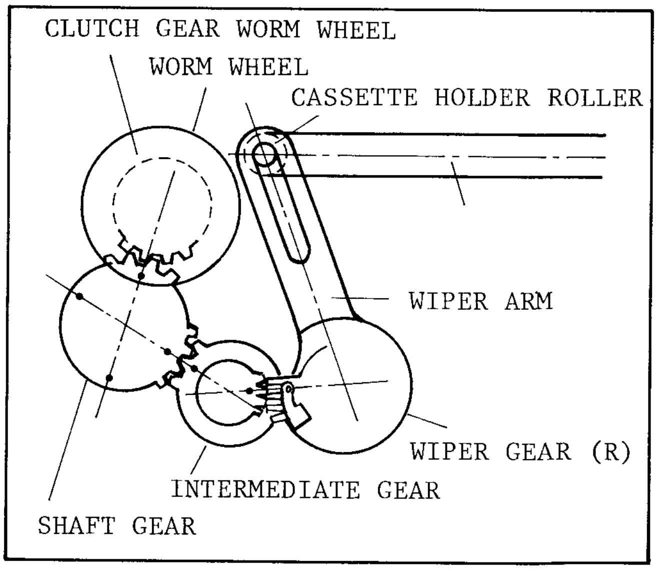
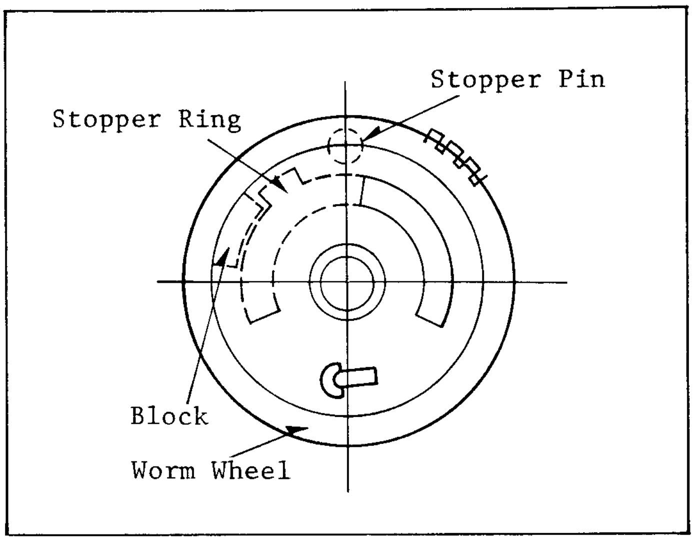

CLUTCH GEAR WORM WHEEL
WORM WHEEL
CASSETTE HOLDER ROLLER
WIPER ARM
WIPER GEAR (R)
INTERMEDIATE GEAR
SHAFT GEAR

Fig. M67

When assemble the Worm Wheel and the Clutch Gear in Fig. M67, assemble the Stopper Ring with the Clutch Gear so the convex portion of the Stopper Ring is related with the Block of the Worm Wheel as shown in Fig. M68.

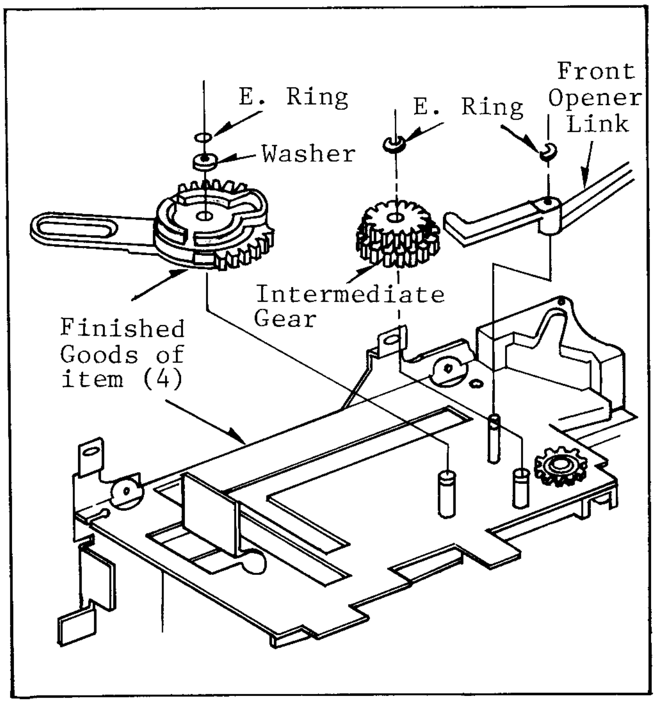
(Phase between the Worm Wheel and the Stopper Ring)



Stopper Pin
Stopper Ring
Block
Worm Wheel

Fig. M68

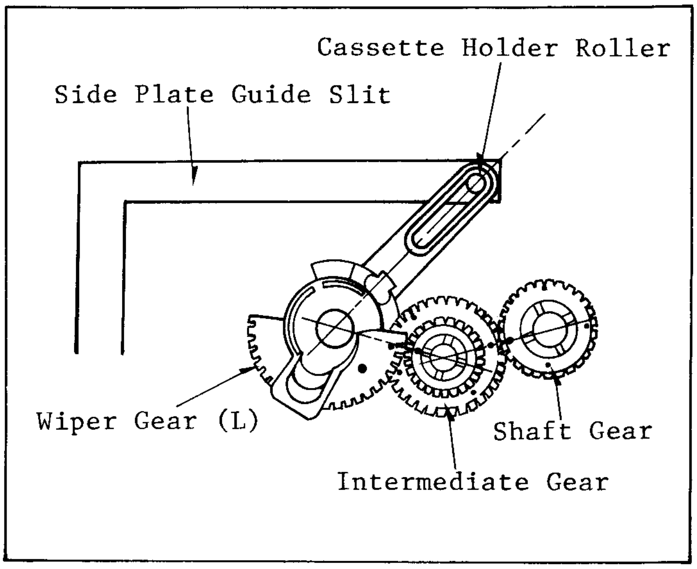
6. Assemble the Gears on left side of Cassette Compartment.



E. Ring
Washer
E. Ring
Front Opener Link
Intermediate Gear
Finished Goods of item (4)

Fig. M69

(Mutual Relation of Gears on Left Side)

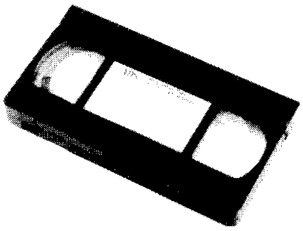


Cassette Holder Roller
Side Plate Guide Slit
Wiper Gear (L)
Shaft Gear
Intermediate Gear

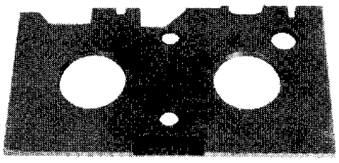
Fig. M70

Servicing Fixtures & Tools

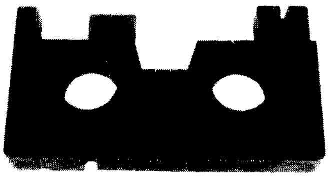
VFM8100H3D VHS Alignment Tape



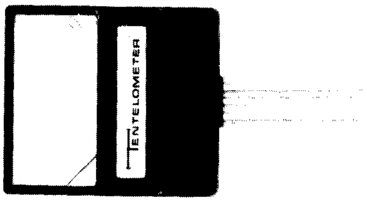
VFK0191 Post Adjustment Plate



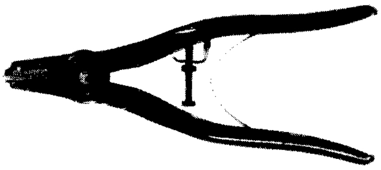
VFK0188 Cassette Holder Fixture



Back Tension Meter
(Tentelometer, Made in U.S.A.)

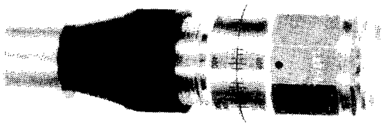


VFK0144 Retaining Ring Remover (3mm)
VFK0145 Retaining Ring Remover (4mm)

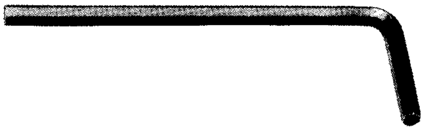


VFK0189 H-Portion Adj. Fixture

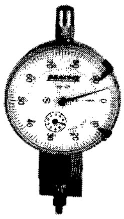
VFK0133	Dial Torque Gauge
VFK0134	Adaptor for VFK0133
VFK0180	(Plastic Clamper Only)



VFK0146	Hex. Wrench (0.9mm)
VFK75	Hex. Wrench (1.25mm)
VFK76	Hex. Wrench (1.5mm)

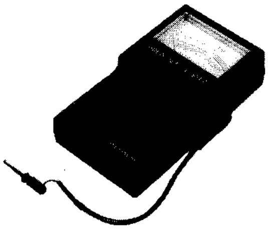


VFK0190 Reel Table Height Jig

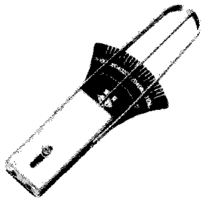


VFK0135 Eccentric Screwdriver

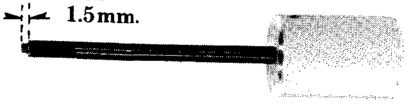
VFK0225 Head Tester



VFK66 Fan Type Tension Gauge

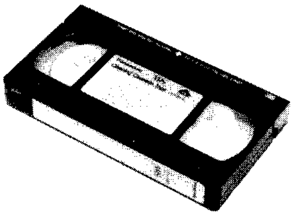


VFK0136 Fine Adjustment Screwdriver

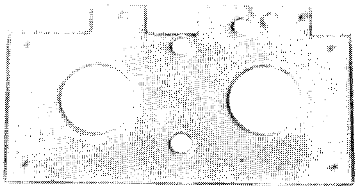


Grind the top portion approximately 2.5mm.

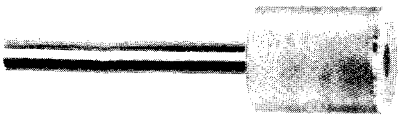
VFK0185 Cleaning Cassette Tape



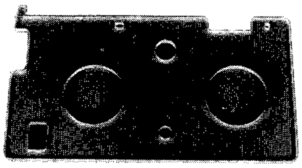
VFK0141 Capstan Reference Plate



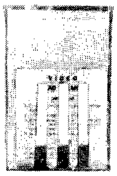
VFK0137 Post Adjustment Screwdriver



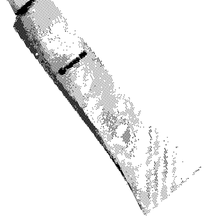
VFK0187 Tension Post Adj. Fixture



VFK27 Head Cleaning Stick



MOR265 Morlytone Grease



ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS video cassette recorder.

1. Test Equipments

To perform the electrical adjustments completely, following equipment is required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range : 0.001 - 50V
2. Dual-Trace Oscilloscope
   Voltage Range : 0.005 - 50V/div.
   Frequency Range: DC - 10MHz
   Probes : 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0 : 10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0 - 10MHz
5. Video Sweep Generator
   Frequency Range: 0 - 10MHz
6. Colour Receiver or Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFM8100H3D)

2. Adjustment Procedures

These adjustment procedures consist of the following sections.

1. Power Supply Section
2. Servo Section
3. Luminance & Chrominance Section
4. Audio Section
5. Timer Decoder Section
6. Timer Operation Section
7. TV Demodulator Section

2-1. POWER SUPPLY SECTION

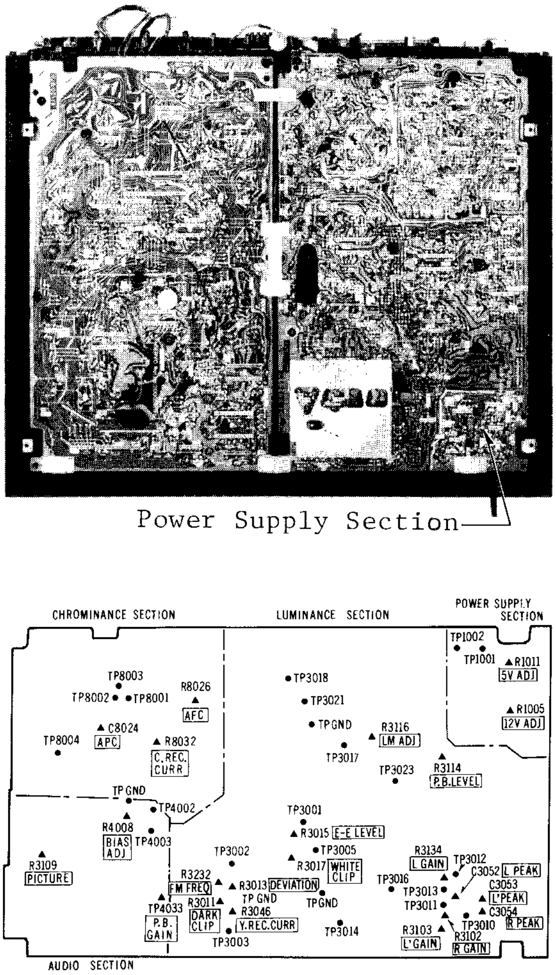

Power Supply Section
CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
AUDIO SECTION
TP8003
TP8002
TP8001
R8026
AFC
C8024
APC
TP8004
R8032
C.REC. CURR
TP GND
TP4002
R4008
BIAS ADJ
TP4003
R3109
PICTURE
TP3002
R3232
FM FREQ
R3013
DEVIATION
R3011
DARK CLIP
TP GND
R3046
Y.REC.CURR
TP4033
P.B. GAIN
TP3003
TP3018
TP3021
TPGND
R3116
LM ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TPGND
TP3014
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
TP3010
R PEAK
R3103
L'GAIN
R3102
R GAIN

Fig. E1 Power Supply Section

2-1-1. REG +12V Adjustment

Test Point: TP1001
Adjustment: R1005 (12V ADJ)

1. Supply 220 ± 2.2V AC to the AC Input of the Unit.
2. Connect the D.V.M to TP1001 on the Power Supply Section.
3. Adjust R1005 on the same section so that the indication of the D.V.M becomes 12.0 ± 0.1V DC.

2-1-2. REG +5V Adjustment

Test Point: TP1002
Adjustment: R1011

Note:
Making this adjustment, "REG +12V Adjustment" must be completed.

1. Supply 220 ± 2.2V AC to the AC Input of the unit.
2. Connect the D.V.M to TP1002 on the Power Supply Section.
3. Adjust R1011 on the same section so that the indication of the D.V.M becomes 5.0 ± 0.1V DC.

2-2. SERVO SECTION

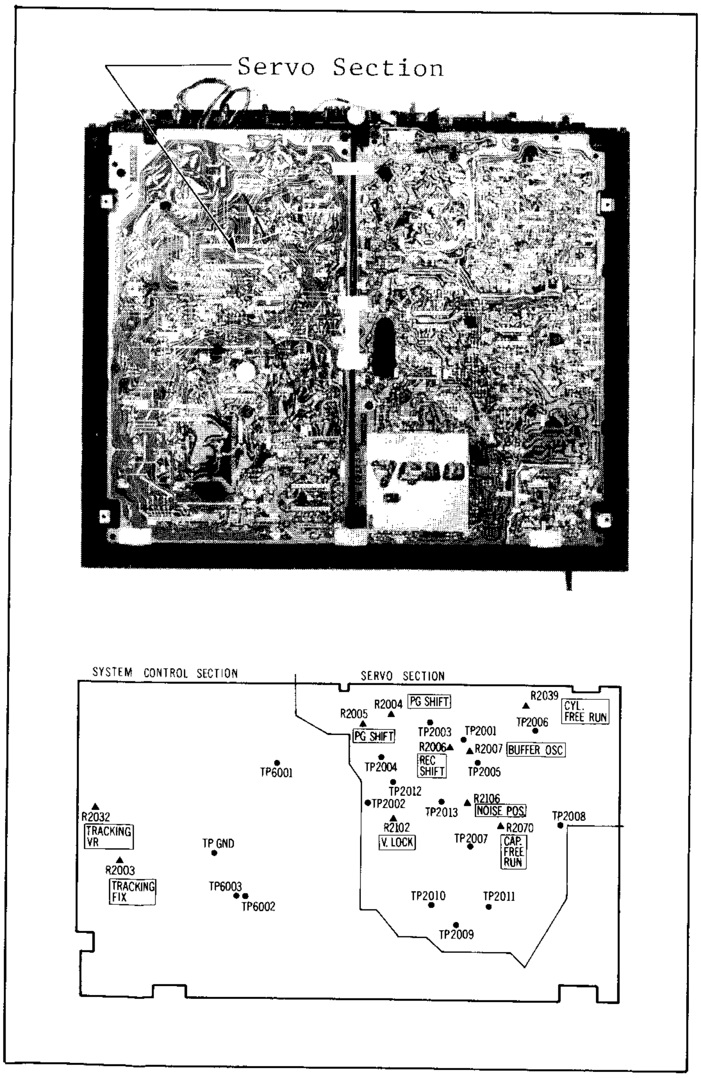

Servo Section
SYSTEM CONTROL SECTION
SERVO SECTION
R2004
PG SHIFT
R2005
PG SHIFT
R2039
CYL. FREE RUN
TP2006
TP2003
TP2001
R2006
R2007
BUFFER OSC
TP2004
REC SHIFT
TP2005
TP6001
TP2012
TP2002
TP2013
R2106
NOISE POS
TP2008
R2032
TRACKING VR
R2102
V. LOCK
TP2007
R2070
CAP. FREE RUN
TP GND
R2003
TRACKING FIX
TP6003
TP6002
TP2010
TP2011
TP2009

Fig. E2 Servo Section

2-2-1. Buffer Oscillator Frequency Adjustment

Test Point: TP2001
Adjustment: R2007 (BUFF. OSC.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP2001 on the Servo Section, and place the unit in REC.PLAY mode.
3. Adjust R2007 on the same section so that the period of "T" becomes $21^{+0.2}_{-0}$ msec.

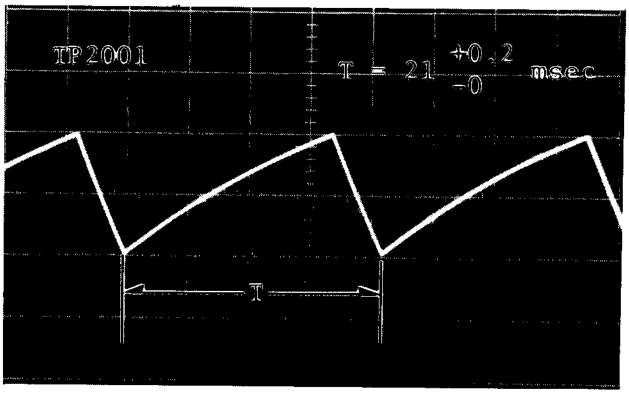


Fig. E3 2V/5msec. div.

4. Next, supply a video signal to the VIDEO INPUT.
5. Make sure that the above period of "T" is 20msec.

2-2-2. Cylinder Free Run Adjustment

Test Points: TP2003, TP2004, TP2005
Adjustment: R2039 (CYL. FREE RUN)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Connect the scope CH1 to TP2003 and CH2 to TP2004 on the Servo Section.
3. Place the unit in REC.PLAY mode.
4. Pre-adjust R2039 on the same section so that the both waveforms, head switching pulse and trapezoidal waveform are phase-locked.

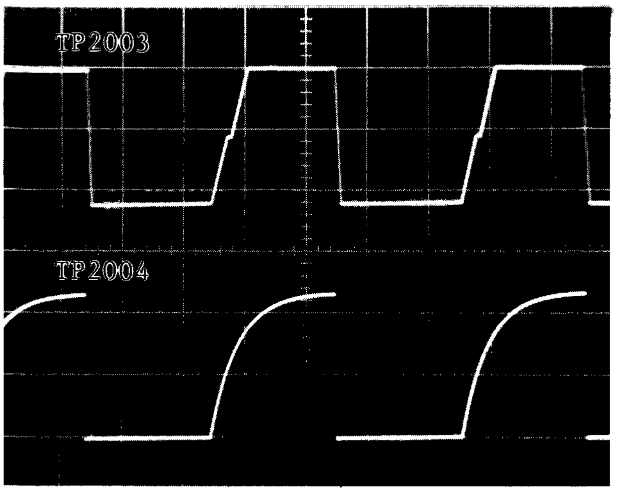


Fig.E4 TP2003 5V/10msec. div.
TP2004 5V/10msec. div.

5. Connect the D.V.M to TP2005 on the same section through the filter as shown below.

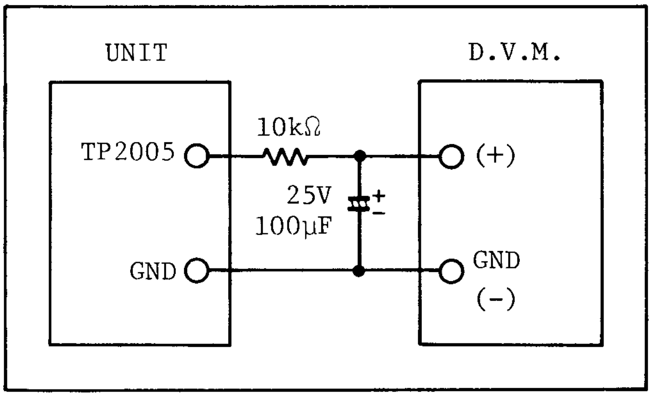


Fig. E5 Filter

6. Adjust R2039 so that the indication of the D.V.M becomes 5.4 ± 0.1V DC.
7. At same time, make sure that both waveforms are phase-locked.

2-2-3. Capstan Free Run Adjustment

Test Points: TP2009, TP2010, TP2011
Adjustment: R2070 (CAP. FREE RUN)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Connect the scope CH1 to TP2009 and CH2 to TP2010 on the Servo Section.
3. Place the unit in REC.PLAY mode.
4. Pre-adjust R2070 on the same section so that the both waveforms, trapezoidal waveform and sampling pulse are phase-locked.

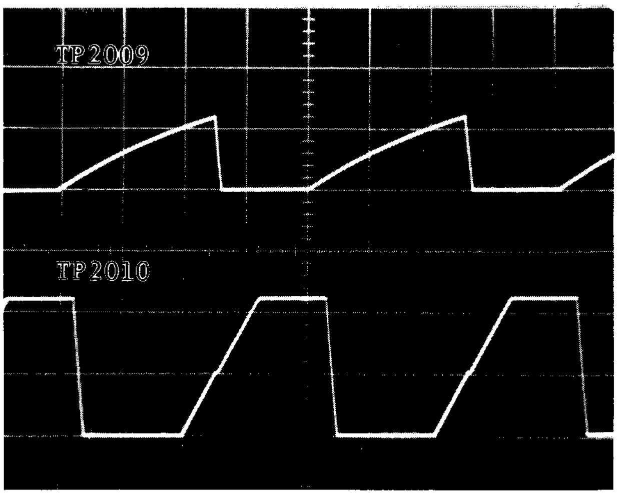


Fig. E6 TP2009 5V/10msec. div.
TP2010 5V/10msec. div.

5. Connect the D.V.M to TP2011 on the same section through the filter as shown below.

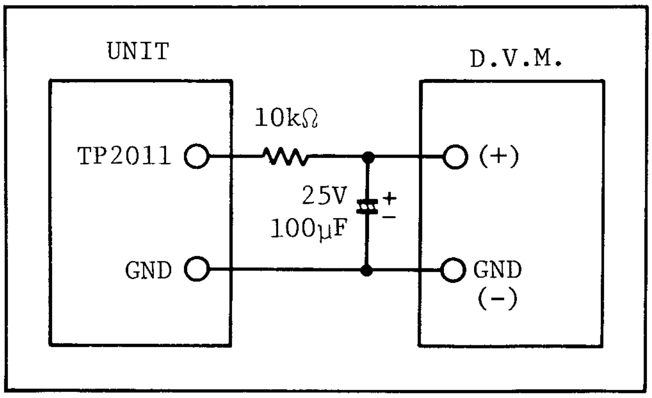


Fig. E7 Filter

6. Adjust R2070 so that the indication of the D.V.M becomes 5.2 ± 0.1V DC.
7. Make sure that the both waveforms are phase-locked.

2-2-4. REC Shifter Adjustment

Test Points: TP2002, TP3021
Adjustment: R2006 (REC SHIFT)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Connect the scope CH1 to TP3021 on the Luminance Section and CH2 to TP2002 on the Servo Section.
3. Place the unit in REC.PLAY mode.
4. Set the scope to the Delay mode, and expand the V-sync portion.
5. Adjust R2006 on the Servo Section so that the head switching position is 6 ± 0.5H before the beginning of the vertical sync as shown below.

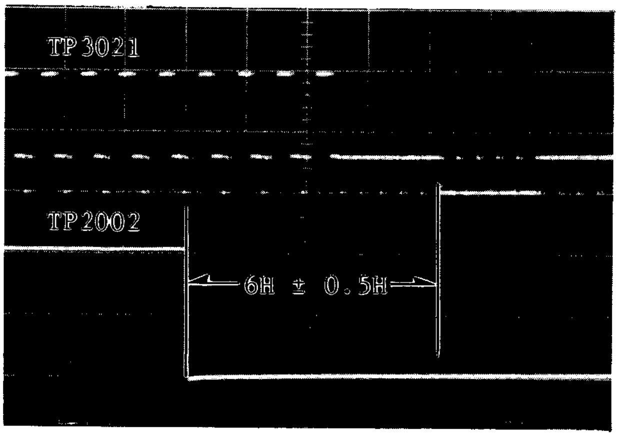


Fig. E8 TP3021 1V/0.1msec. div.
TP2002 5V/0.1msec. div.

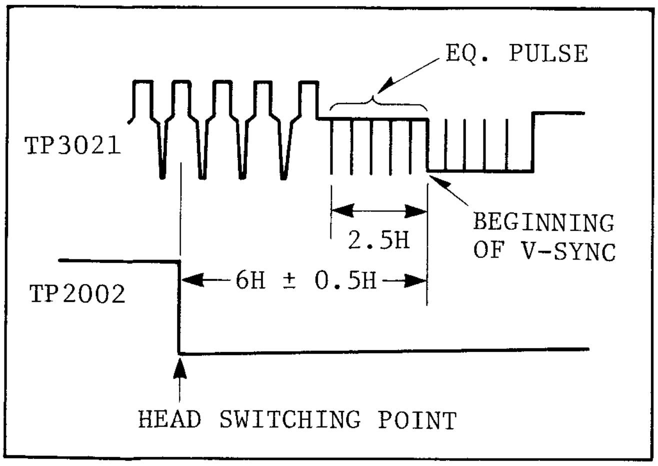


Fig. E9

2-2-5. PG Shifter Adjustment

Test Points: TP2002, TP3021
Adjustments: R2004, R2005 (PG SHIFT)

1. Playback the alignment tape (VFM8100H3D).
2. Connect the scope CH1 to TP3021 on the Luminance Section and CH2 to TP2002 on the Servo Section.
3. Set the scope to the Delay mode, and expand the V-sync portion.
4. Adjust R2004 on the servo Section so that the falling edge of switching pulse is 6 ± 0.5H before the beginning of the V-sync as shown below.

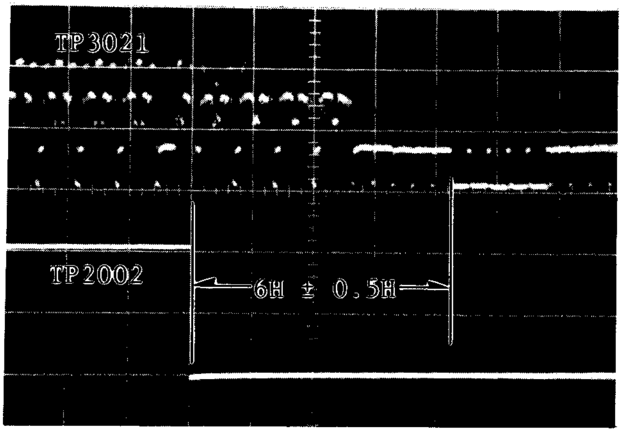


Fig. E10 TP3021 1V/0.1msec. div.
TP2002 5V/0.1msec. div.

5. Change the slope selector on the scope front "+" to "-" and adjust R2005 on the same section so that the rising edge of switching pulse is 6 ± 0.5H before the beginning of the V-sync as shown below.

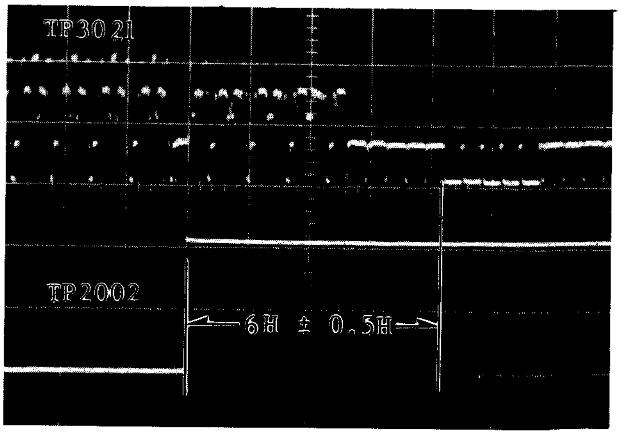


Fig. E11 TP3021 1V/0.1msec. div.
TP2002 5V/0.1msec. div.

6. Switch the slope selector on the scope to either (+) or (-) and adjust R2004 and R2005 for less than 10μsec difference.

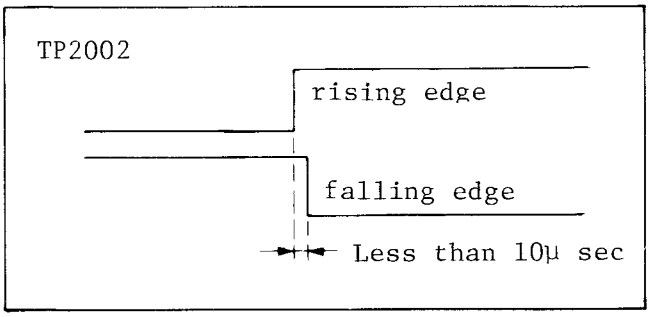


Fig. E12 Switching Edge Difference

2-2-6. Tracking Fix Adjustment

Test Points: TP2002, TP2009
Adjustment: R2033 (TRACKING FIX)

Note:
Making this adjustment, "Capstan Free Run Adjustment" must be completed.

1. Set the TRACKING VR on the front panel to the center detent point.
2. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program, and make a recording for a few minutes.
3. Connect the scope CH1 to TP2002 and CH2 to TP2009 both on the Servo Section, and playback the just recorded portion.
4. Adjust R2033 on the same section so that the period "T" becomes 0.4 ± 0.4 msec as shown below.

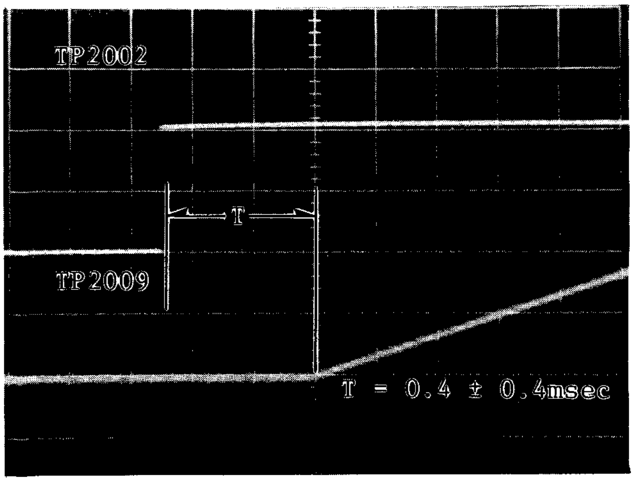


Fig. E13 TP2002 5V/0.1msec. div.
TP2009 0.1V/0.1msec. div.

2-2-7. Phase Adjustment of Artificial V-Sync Pulse

Test Points: TP2002, TP2012
Adjustment: R2102 (V.LOCK)

Note:
Making this adjustment, "PG Shifter Adjustment" must be completed.

1. Playback the alignment tape (VFM8100H3D), and place the unit in STILL mode.
2. Connect the scope CH1 to TP2002 and CH2 to TP2012 both on the Servo Section.

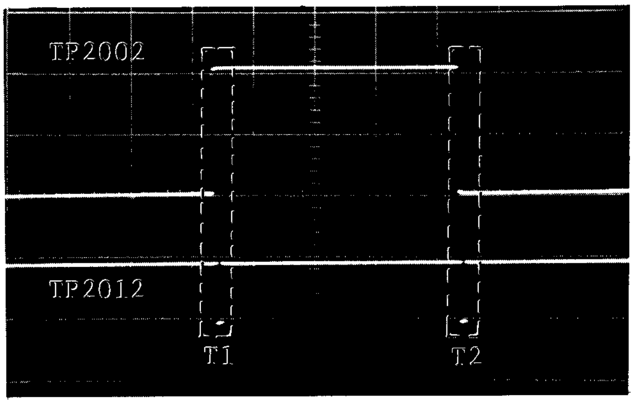


Fig. E14 TP2002 5V/5msec. div.
TP2012 5V/5msec. div.

3. Set the scope to Delay mode, and expand "T1" portion.
4. Adjust R2102 on the same section so that the period "T1" becomes 272 ± 15μsec. as shown below.

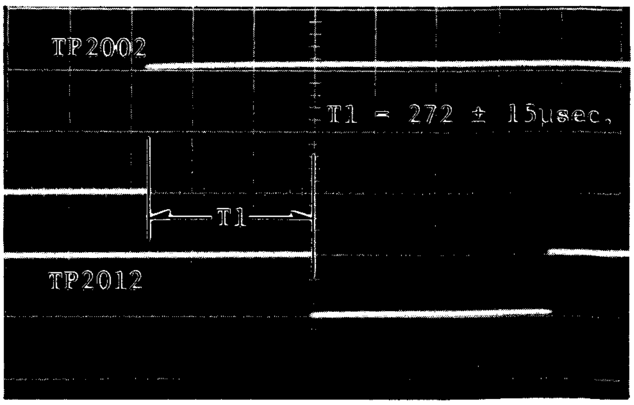


Fig. E15 TP2002 5V/0.1msec. div.
TP2012 5V/0.1msec. div.

5. Next, expand "T2" portion.
6. Confirm that period "T2" is 144 ± 15 μsec. and period "T3" is 400 ± 20μsec. as shown below.

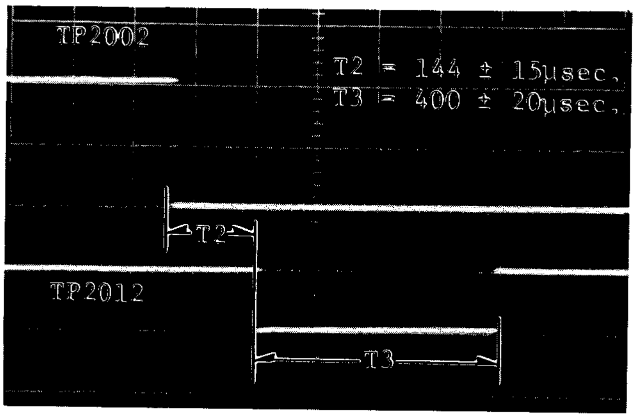


Fig. E16 TP2002 5V/0.1msec. div.
TP2012 5V/0.1msec. div.

2-2-8. Noise Position Adjustment

Test Point: TP2002, TP2013
Adjustment: R2106 (NOIS.POS)

Note:
Making this adjustment, "PG Shifter Adjustment" must be completed.

1. Connect the scope CH1 to TP2002 and CH2 to TP2013 both on the Servo Section.
2. Playback the alignment tape (VFM8100H3D) and place the unit in STILL mode.

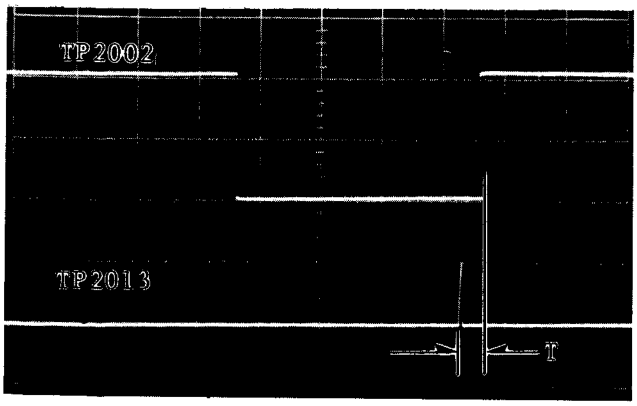


Fig. E17 TP2002 5V/5msec. div.
TP2013 5V/5msec. div.

3. Set the scope to Delay mode, and expand "T" portion.
4. Adjust R2106 so that the period "T" becomes 2 ± 0.5msec. as shown below.

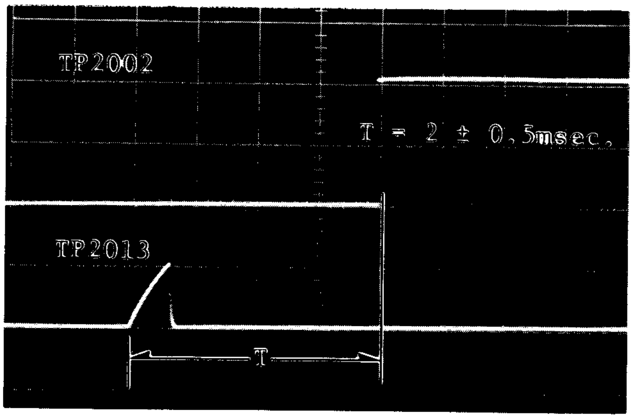


Fig. E18 TP2002 5V/0.5msec. div.
TP2013 5V/0.5msec. div.

2-2-9. Confirmation and Adjustment of V-dancing and Noise Position

Test Point: Monitor TV
Adjustment: R2102 (V.LOCK)
R2106 (NOIS.POS)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program and connect the TV monitor to the Video Output on the rear jack board.
2. Make a recording for a few minutes, and playback the just recorded portions.
3. Place the unit in STILL mode, and confirm that V-dancing does not appear on the TV screen.
4. If V-dancing appears on the TV screen, adjust R2102 so that the V-dancing becomes minimum.
5. Next, confirm that the noise band is split from lower side to upper side on the TV screen.
6. If noise band does not split from lower side to upper side on the TV screen, adjust R2106 so that it becomes split as shown below.

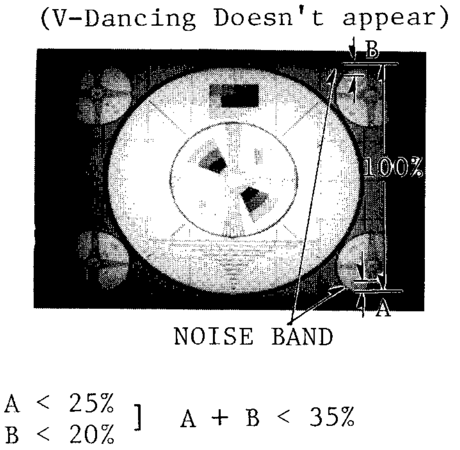

(V-Dancing Doesn't appear)
B
100%
A
NOISE BAND
A < 25%
B < 20%
A + B < 35%

Fig. E19

2-3. LUMINANCE & CHROMINANCE SECTION

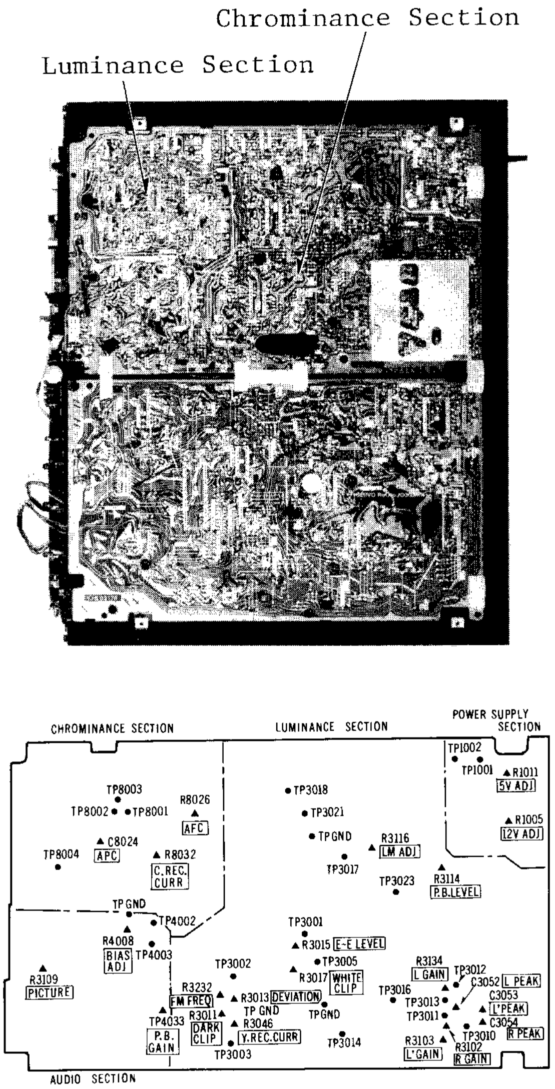

Chrominance Section
Luminance Section
CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
AUDIO SECTION
TP8003
TP8002
TP8001
R8026
AFC
C8024
APC
TP8004
R8032
C.REC. CURR
TP GND
TP4002
R4008
BIAS ADJ
TP4003
R3109
PICTURE
TP3002
R3232
FM FREQ
R3013
DEVIATION
TP4033
R3011
DARK CLIP
TP GND
R3046
P.B. GAIN
Y.REC.CURR
TP3003
TP3018
TP3021
TP GND
R3116
LM ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TP GND
TP3014
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
R PEAK
TP3010
R3103
L'GAIN
R3102
R GAIN

Fig. E20 Luminance & Chrominance Section

2-3-1. E-E Level Adjustment

Test Point: TP3021
Adjustment: R3015 (E-E LEVEL)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel, and open the VIDEO OUTPUT on the rear jack board.
2. Place the unit in STOP mode and connect the scope to TP3021 on the Luminance Section.
3. Adjust R3015 on the same section so that the waveform becomes 2.0 ± 0.1 Vp-p as shown below.

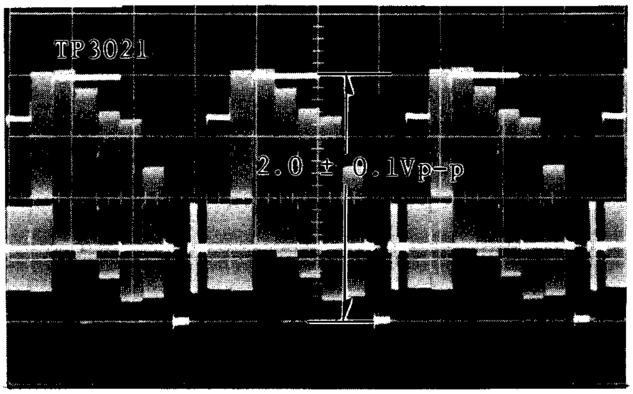


Fig. E21 500mV/20µsec. div.

2-3-2. Dark & White Clip Adjustment

Test Point: TP3002
Adjustment: R3011 (D.CLIP)
R3017 (W.CLIP)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel and place the unit in STOP mode.
2. Connect the scope to TP3002 on the Video Section.
3. Adjust R3011 and R3017 on the same section so that the waveform becomes as shown below.

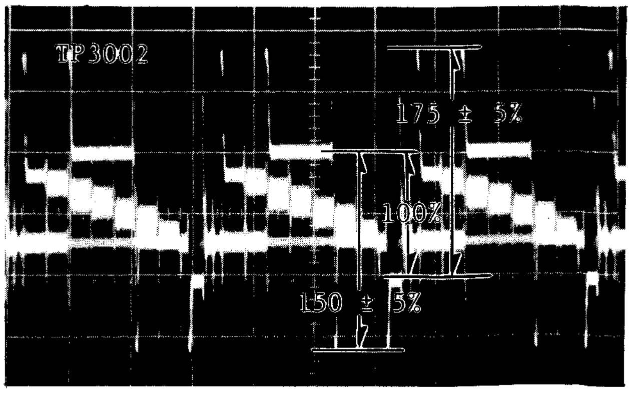


Fig. E22 200mV/20µsec. div.

2-3-3. Sync Tip Frequency and Deviation Adjustment

Test Points: TP3003, R3013 side of R3012
Adjustments: R3013 (DEV)
R3032 (FM FREQ)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Place the unit in stop mode, and connect the frequency counter to TP3003 on the Luminance Section.
3. Adjust R3032 on the same section so that the indication of the frequency counter becomes 3.8 ± 0.1 MHz.
4. Next, supply a colour bar signal to the VIDEO INPUT on the front panel and connect the scope to R3013 side of R3012 on the Luminance section.
6. Adjust R3013 on the same section so that the level of the waveform becomes as showen below.

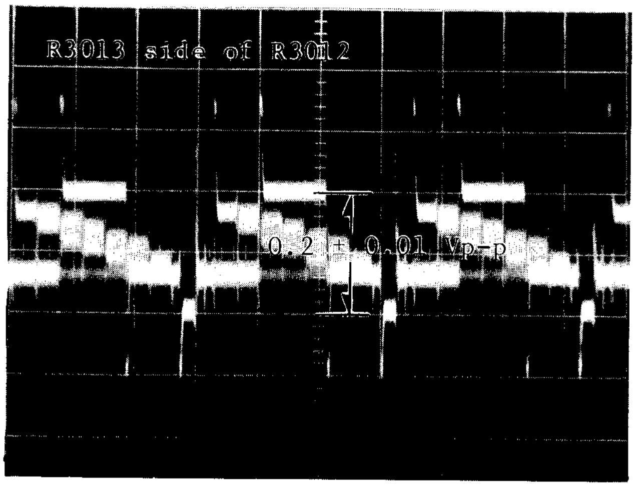


Fig. E23 100mV/20μsec.div.

2-3-4. AFC Frequency Adjustment

Test Point: TP8002
Adjustment: R8026 (AFC)

1. Do not supply any video signal to the VIDEO INPUT on the front panel, and place the unit in STOP mode.
2. Connect a jumper wire between TP8001 and TP8003 both on the Chrominance Section, and connect the frequency counter to TP8002 on the same section through the 10:1 probe.
3. Adjust R8026 on the same section so that indication of the frequency counter becomes 4.2 ± 0.03MHz.
4. After this adjustment, remove the jumper.

2-3-5. APC Frequency Adjustment

Test Point: TP8004
Adjustment: C8024 (APC)

1. Do not supply any video signal to the VIDEO INPUT on the front panel, and place the unit in STOP mode.
2. Connect the frequency counter to TP8004 on the Chrominance section through the 10:1 probe.
3. Adjust C8024 on the same section so that indication of the frequency counter becomes 4.433619MHz ± 50Hz.

2-3-6. Video Rec. Current Adjustment

Test Points: TP3012 (GND)
TP3013 (HOT)
Adjustments: R8032 (C. REC. CURR.)
R3046 (Y. REC. CURR.)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel, and place the unit in REC.PLAY mode.
2. Connect the scope to TP3012 (GND) and TP3013 (HOT) both on the Luminance Section.
3. Connect a jumper wire between TP3004 and the GND on the same section.
4. Adjust R8032 on the Chrominance Section so that the waveform becomes 28 ± 2mVp-p as shown below.

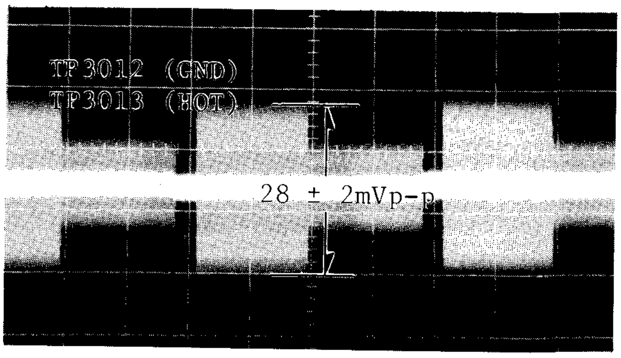


Fig. E24 10mV/5msec. div.

5. Remove the jumper wire, and adjust R3046 on the Luminance Section so that the waveform becomes 150 ± 5mVp-p as shown below.

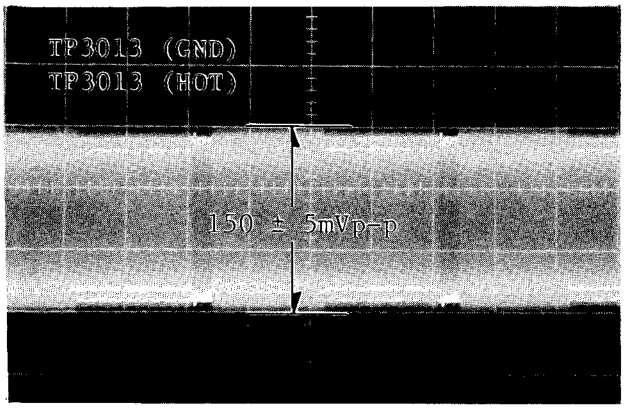


Fig. E25 50mV/5msec. div.

2-3-7. Comb Filter Adjustment

Test Point: IC8002-22
Adjustment: R8020 (COMB BAL)

1. Place the unit in STOP mode, and connect a jumper wire between IC8002-1 and TP8003 both on the Chrominance Section.
2. Set the Signal Select Button on the Sweep Generator to "CHROMA" and turn the sync, burst and set up to off.
3. Supply the output of the Sweep Generator to IC8002-16 on the same section.
4. Connect the scope to IC8002-22 on the same section, and set the output level of the Sweep Generator to 300mVp-p.
5. Put the markers on 3.93MHz, 4.43MHz and 4.93MHz portions of the waveform.
6. Adjust R8030 on the same section so that the carrier leakage "A" at 4.43MHz becomes minimum as shown below.

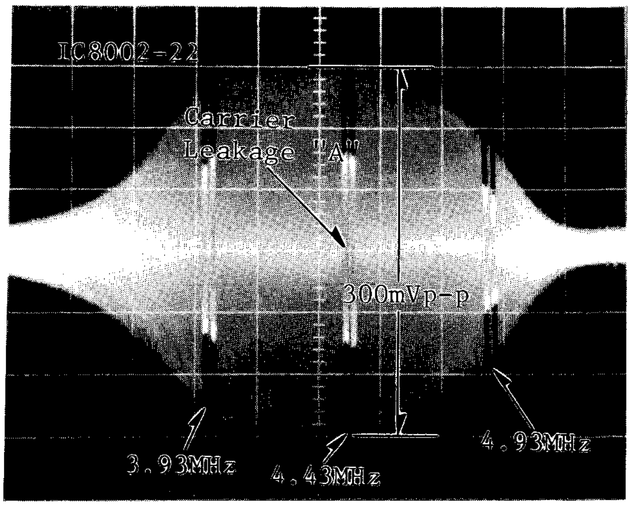


Fig E26 50mV/1msec. div.

2-3-8. Head Amp Peak Frequency Adjustment

Test Point: TP3014
Adjustments: C3052 (L PEAK)
C3053 (L' PEAK)
C3054 (R PEAK)
R3102 (R GAIN)
R3103 (L' GAIN)
R3134 (L GAIN)

1. Set the sweep generator output to 100mVp-p at no load and insert the attenuator -3dB to 71mVp-p.
2. Put the marker to the Sweep generator output at 2MHz and 4.6MHz.

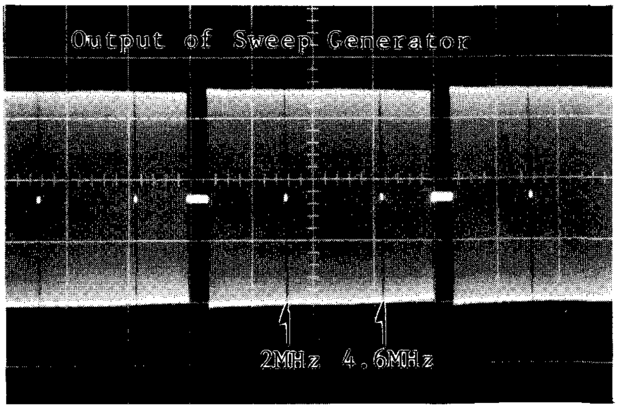


Fig. E27 20mV/5msec. div.

3. Supply the sweep generator output to TP3011 and TP3013 both on the Luminance Section through the 39kΩ resistors as shown below.

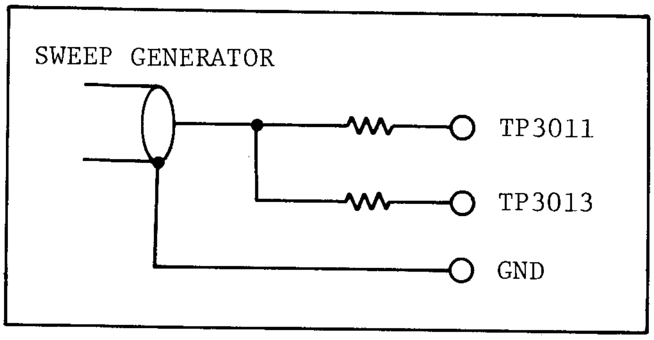


Fig. E28

4. Insert a blank cassette tape and place the unit in PLAY mode. (Blank tape: This tape must be not recorded any video signal.)
5. Connect the scope to TP3014 on the same section.
6. Adjust R3102 and R3134 both on the same section so that the envelopes of both channels becomes as shown below.

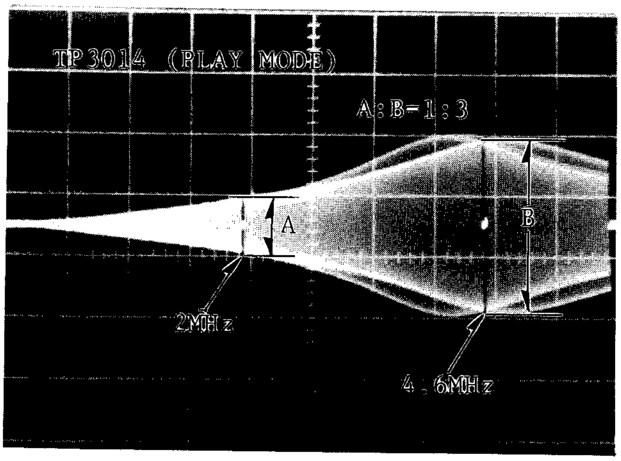


Fig. E29 200mV/2msec. div.

7. Adjust C3052 and C3054 both on the same section so that the peaks of both channels becomes 4.6MHz portions as shown below.

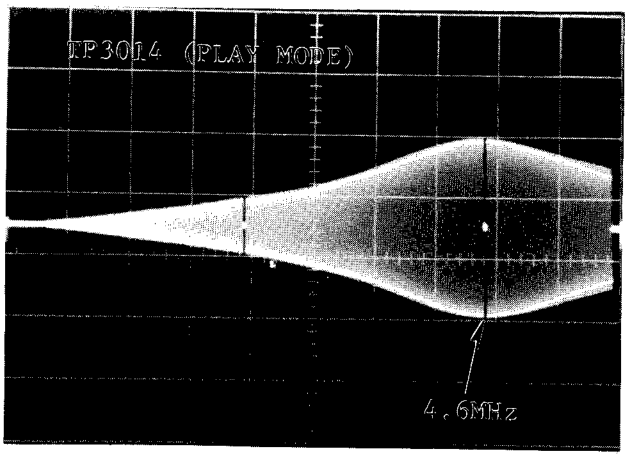


Fig. E30 200mV/2msec. div.

8. Place the unit in STILL mode, and adjust R3103 on the same section so that the envelope becomes as shown below.

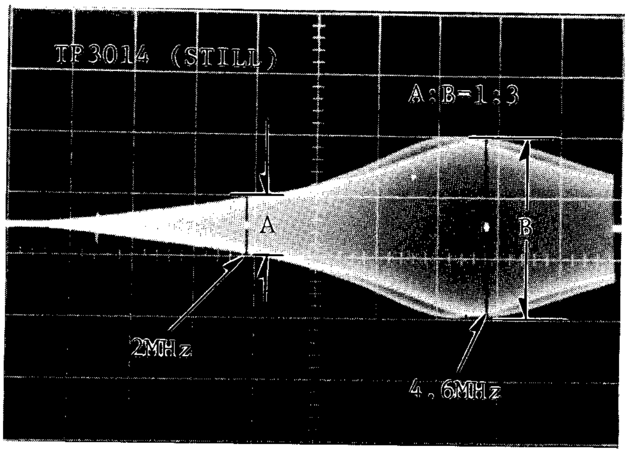


Fig. E31 200mV/2msec. div.

9. Adjust C3053 on the same section so that the peak of the envelope becomes 4.6MHz portion as shown below.

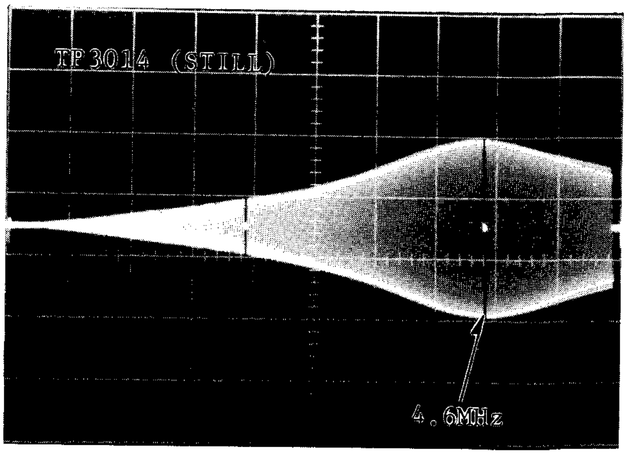


Fig. E32 200mV/2msec. div.

2-3-9. Head Amp Frequency Response Adjustment

Test Point: TP3021

Adjustments: R3102 (R GAIN)
R3103 (L' GAIN)
R3134 (L GAIN)

1. Set the sweep generator output as shown below.
   (Amplitude value of this waveform is terminated with 75Ω.)

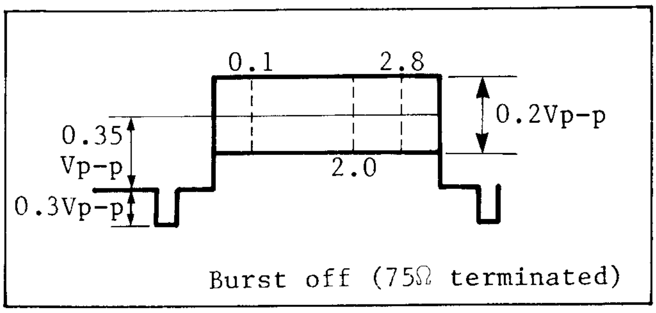

0.1
2.8
2.0
0.2Vp-p
0.35 Vp-p
0.3Vp-p
Burst off (75Ω terminated)

Fig. E33-(a)

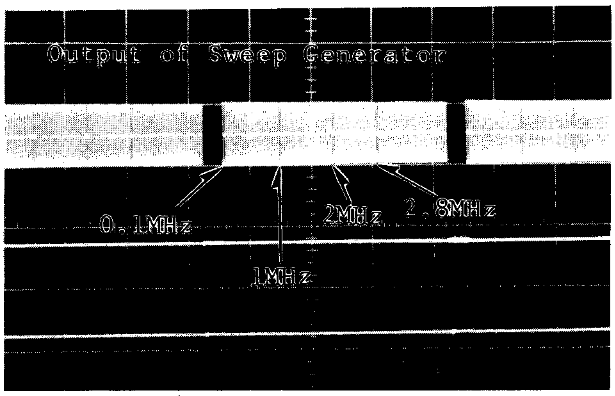

Output of Sweep Generator
0.1MHz
2MHz
2.8MHz
1MHz

Fig. E33-(b)

2. Set the Picture VR to center fix point.
3. Supply above set signal to the VIDEO INPUT on the front panel and make a recording for a few minutes.
4. Connect the scope to TP3021 on the Luminance section and playback the just recorded portions.
5. Adjust R3102 and R3134 both on the same section so that the waveform becomes as shown below.

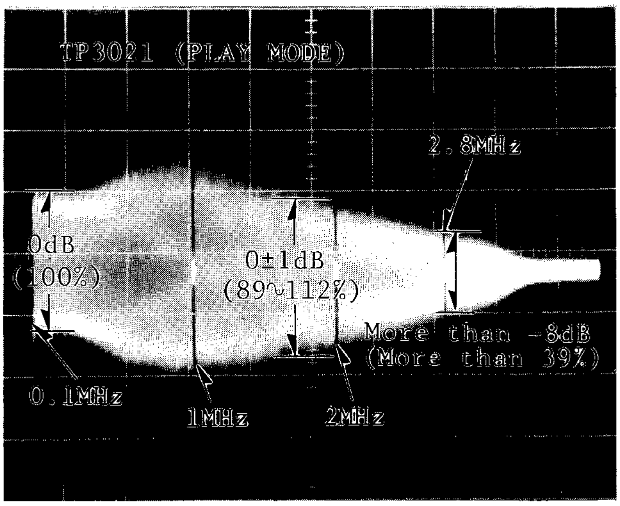

TP3021 (PLAY MODE)
2.8MHz
0dB (100%)
0±1dB (89~112%)
More than -8dB (More than 39%)
0.1MHz
1MHz
2MHz

Fig. E34 200mV/2msec. div.

6. Place the unit in STILL mode, and adjust R3103 on the same section so that the waveform becomes as shown below.

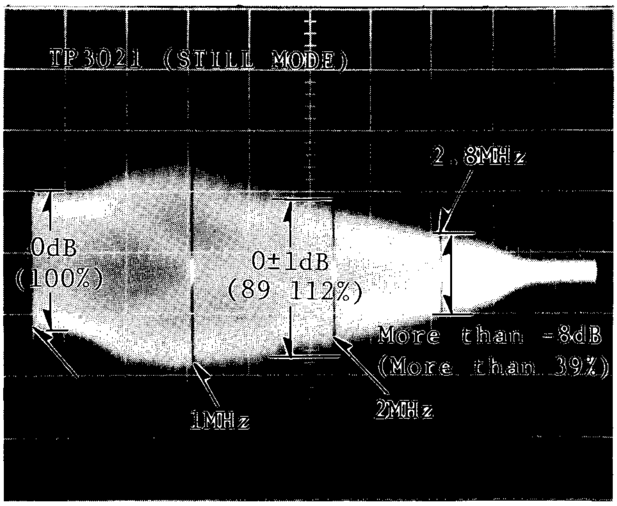

TP3021 (STILL MODE)
2.8MHz
0dB (100%)
0±1dB (89 112%)
More than -8dB (More than 39%)
1MHz
2MHz

Fig. E35 200mV/2msec. div.

2-3-10. Line Mutual Circuit Adjustment

Test Point: TP3017
Adjustment: R3116 (L.M. ADJ)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3017 on the Luminance Section through the Filter as shown below.

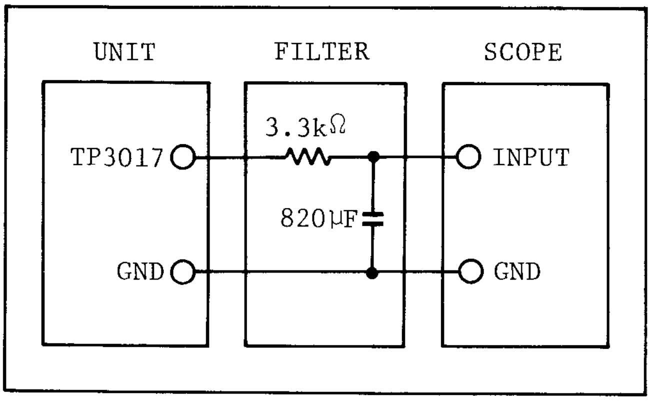


Fig. E36

3. Make a recording for a few minutes, and playback the just recorded portions.
4. Adjust R3116 on the same section so that the level of the waveform becomes minimum.

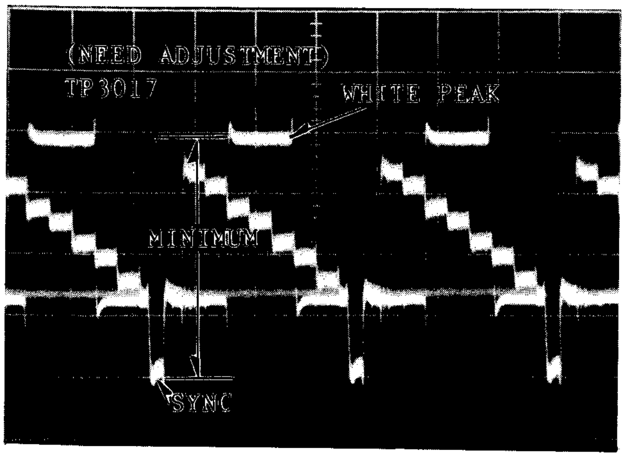


Fig. E37 100mV/20μsec. div.

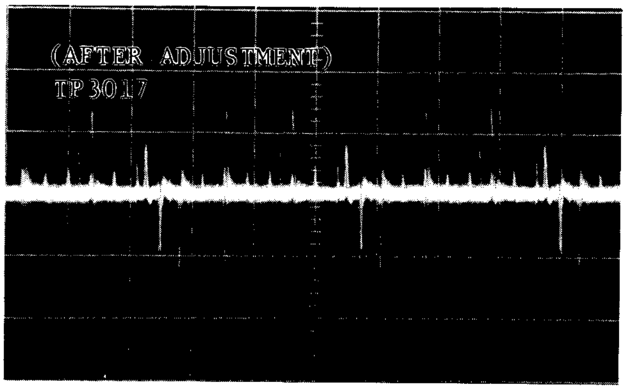


Fig. E38 100mV/20μsec. div.

2-3-11. Video Playback Level Adjustment

Test Point: TP3021
Adjustment: R3114

1. Supply a colour bar signal to the VIDEO INPUT on the front panel, and make a recording for a few minutes.
2. Connect the scope to TP3021 on the Luminance Section, and playback the just recorded portions.
3. Adjust R3114 on the same section so that the Y-Level becomes 2.0 ± 0.1 Vp-p, and make sure that the cyan level is 1.1 ± 0.15Vp-p.

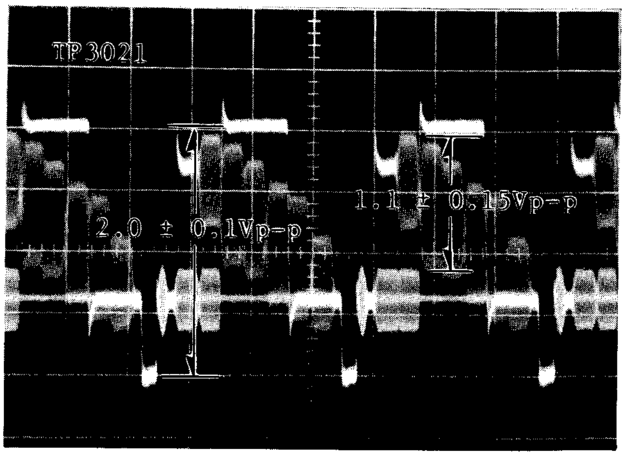


Fig. E39 500mV/20μsec. div.

2-4. AUDIO SECTION

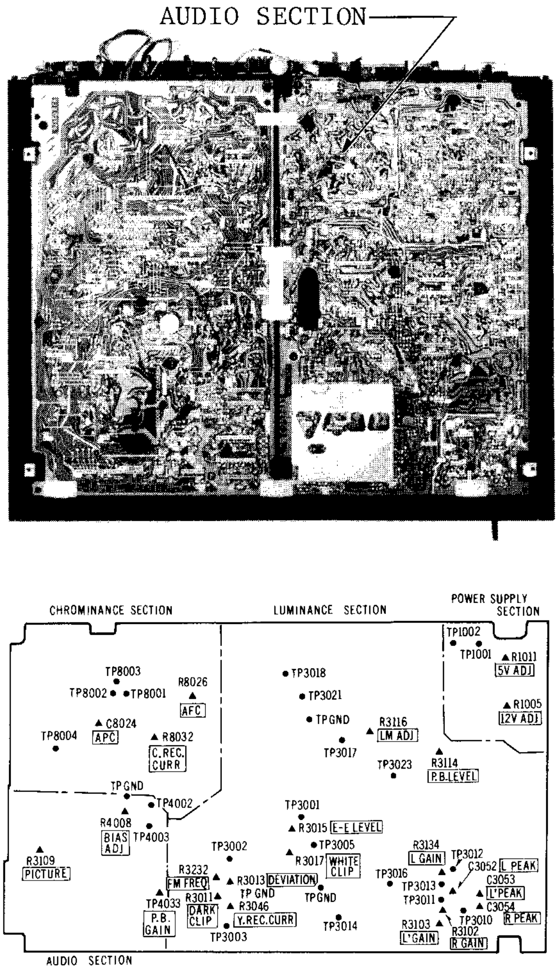

AUDIO SECTION
CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
TP8003
TP8002
TP8001
R8026
AFC
C8024
APC
TP8004
R8032
C.REC. CURR
TP3018
TP3021
TP GND
R3116
LM ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP GND
TP4002
R4008
BIAS ADJ
TP4003
TP3001
R3015
E-E LEVEL
TP3005
R3109
PICTURE
TP3002
R3017
WHITE CLIP
R3134
L GAIN
TP3012
C3052
L PEAK
R3232
FM FREQ
R3013
DEVIATION
TP3016
C3053
TP3013
L'PEAK
TP4033
R3011
TP GND
TP GND
TP3011
C3054
R3046
P.B. GAIN
DARK CLIP
Y.REC.CURR
TP3014
R3103
TP3010
R PEAK
TP3003
L'GAIN
R3102
R GAIN
AUDIO SECTION

Fig. E40 Audio Section

2-4-1. Audio Bias Current Adjustment

Test Points: TP4002 (HOT)
TP4003 (GND)
Adjustment: R4008 (BIAS ADJ)

1. Do not supply any audio signal to the AUDIO INPUT and place the unit in REC.PLAY mode.
2. Connect the D.V.M to TP4002 (HOT) and TP4003 (GND) both on the Audio Section.
3. Adjust R4008 on the same section so that the indication of the D.V.M becomes 3.5 ± 0.1mVrms.

2-4-2. Audio Playback Level Adjustment

Test Point: TP4001
Adjustment: R4033 (P.B GAIN)

Note:
Making this adjustment, "Tape Interchangeability Adjustment" and "Audio Bias Current Adjustment" must be completed.

1. Supply the sinewave signal (1kHz, -10dB) to the AUDIO INPUT on the front Panel. (-10dB=316mVrms=894 mVp-p).
2. Connect the scope to TP4001 on the Audio Section.
3. Make a recording for a few minutes, and playback the just recorded portions.
4. Adjust R4033 on the same section so that the level of the playback waveform becomes E-E level ± 140mVp-p. (140mVp-p≑50mVrms)

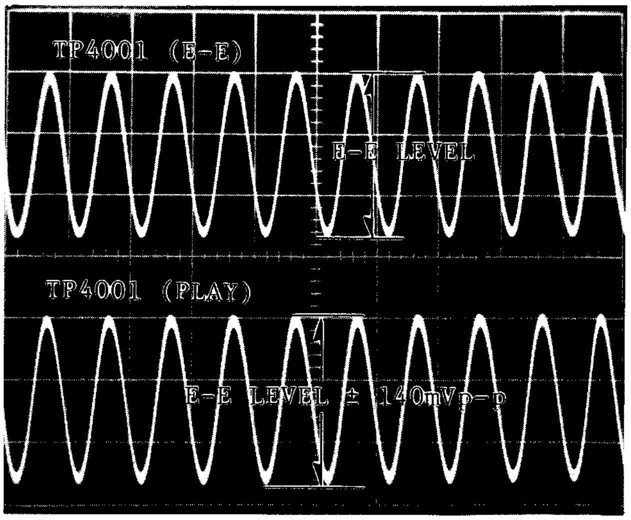
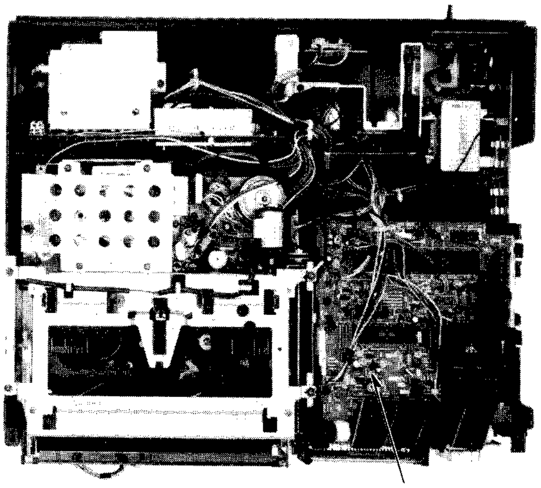


Fig. E41 500mV/1msec. div.

2-5. Timer Decoder Section



Timer Decoder P.C. Board Unit

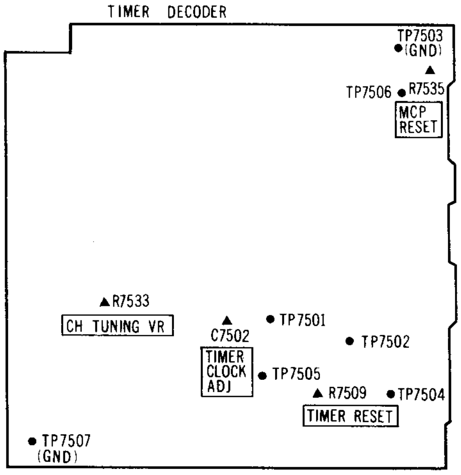

TIMER DECODER
TP7503
(GND)
TP7506
R7535
MCP RESET
R7533
CH TUNING VR
C7502
TP7501
TP7502
TIMER CLOCK ADJ
TP7505
R7509
TP7504
TIMER RESET
TP7507
(GND)

Fig. E42

2-5-1. Timer Reset Voltage Adjustment

Test Point: TP79501
Adjustment: R7509 (TIMER RESET)

1. Disconnect the AC Plug of the unit and connect a jumper wire between TP7502 and TP7504 both on the Timer Decoder P.C. Board Unit.
2. Supply 3.7 ± 0.05V DC to TP7504.
3. Connect the scope to TP7501 on the same board.
4. Turn R7509 on the same board fully counter clockwise. Then turn it clockwise slowly till the waveform at TP7501 becomes 128MHz.

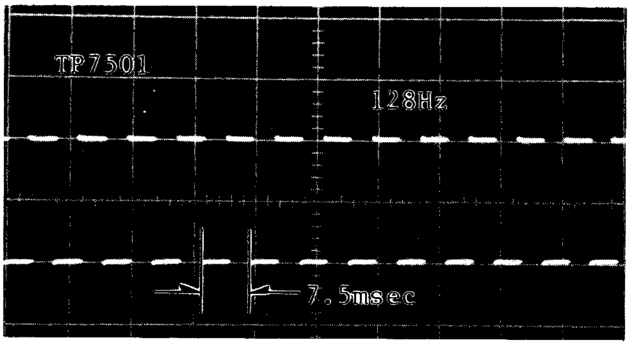


Fig. E43 2V/10msec. div.

5. Next, set the DC voltage supplied to TP7504 to 3.85 ± 0.05V.
6. Confirm that the waveform at TP7501 is 16Hz.

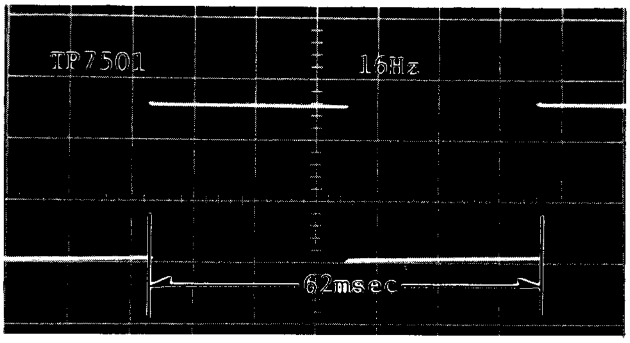


Fig. E44 2V/10msec. div.

7. After this adjustment, remove the jumper wire and the DC power supply.

2-5-2. Timer Microprocessor Reset Voltage Adjustment

Test Point: TP7501
Adjustment: R7535 (MCP RESET)
Note:
Making this adjustment, "Timer Reset Voltage Adjustment" must be completed.

1. Disconnect the AC Plug of the unit and connect a jumper wire between TP7504 and TP7505 both on the Timer Decoder P.C. Board Unit.
2. Supply 4.6 ± 0.05V DC to TP7505 on the same board.
3. Connect the scope to TP7501 on the same board.

4. Turn R7535 on the same board fully clockwise, then turn it slowly counterclockwise till the waveform at TP7501 becomes 16Hz.

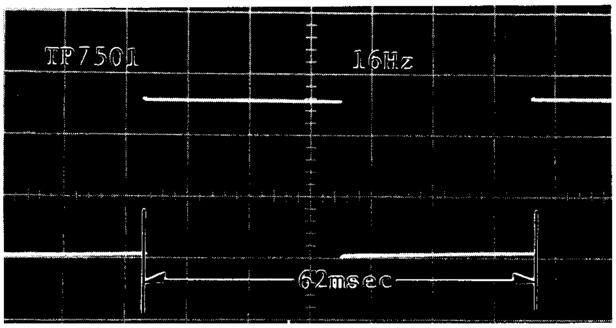


Fig. E45 2V/10msec. div.

5. Next, set the DC Voltage supplied to TP7505 to 4.8 ± 0.05V.
6. Confirm that the waveform at TP7501 is 128Hz.

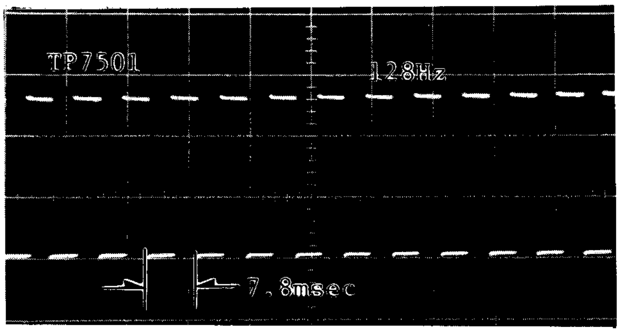


Fig. E46 2V/10msec. div.

7. After this adjustment, remove the jumper wire and the DC power supply.

2-5-3. Timer Clock Adjustment

Test Point: TP7501
Adjustment: C7502 (TIMER CLOCK)

Note:
Making this adjustment, "Timer Reset Voltage Adjustment" and "Timer Microprocessor Reset Voltage Adjustment" must be completed.

1. Connect the frequency counter to TP7501 on the Programmable Timer P.C. Board Unit.
2. Adjust C7502 on the same board so that the indication of frequency counter becomes 7812.5 ± 0.017μsec.

2-6. Timer Operation Section

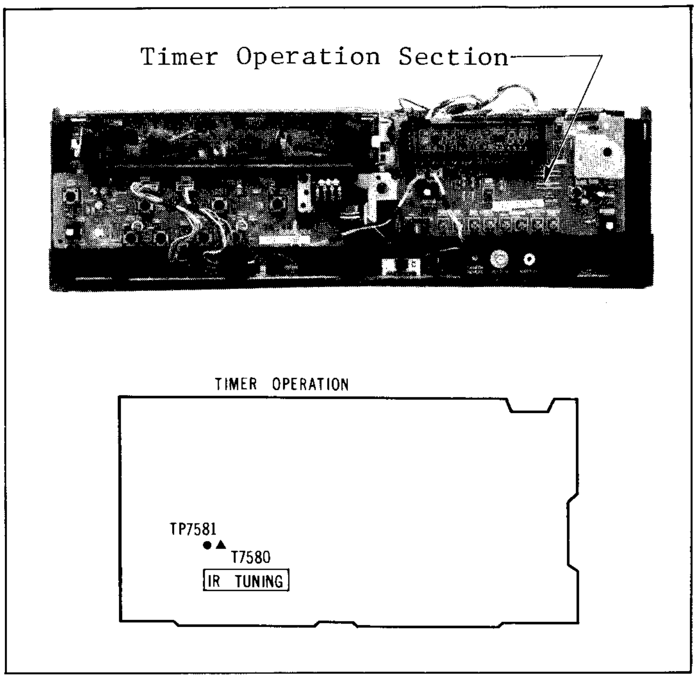


Fig. E47 Timer Operation Section

2-6-1. Infrared Tuning Frequency Adjustment

Test Point: TP7581
Adjustment: T7580 (TUNING FREQ)

1. Place the deck in Stop mode.
2. Connect the oscilloscope to TP7581 on the Timer Operation P.C. Board Unit.
3. Adjust T7580 on the same section so that the output level at TP7581 becomes maximum while STOP key of the Infrared Remote Control Unit is being pressed.

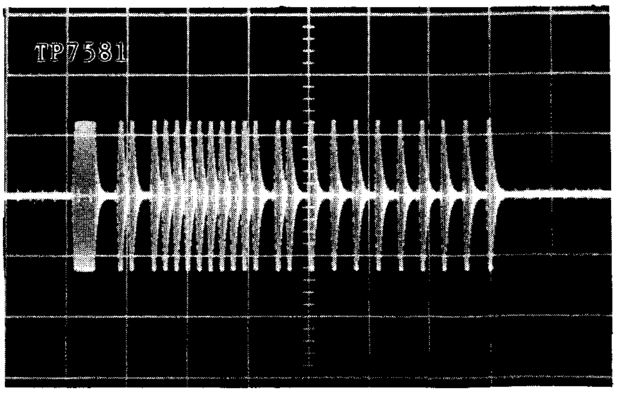


Fig. E48 0.5V/10msec. div.

2-7. TV DEMODULATOR SECTION

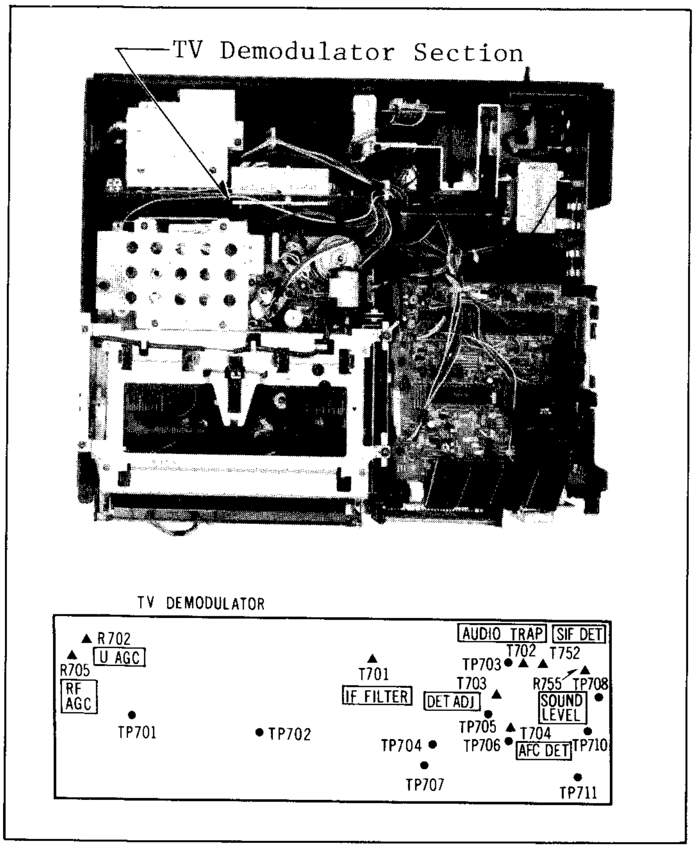

TV Demodulator Section
TV DEMODULATOR
R702
U AGC
R705
RF AGC
TP701
TP702
T701
IF FILTER
AUDIO TRAP
SIF DET
T702
T752
TP703
T703
DET ADJ
R755
TP708
SOUND LEVEL
TP705
T704
TP704
TP706
AFC DET
TP710
TP707
TP711

Fig. E49

This section provides complete electrical adjustment procedures which may be required for TV demodulator circuit.

Test Equipment

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor 38.9MHz
2. SIF Sweep Generator .... 5.5MHz ± 150kHz
3. CW Oscillator ..... 38.9MHz ± 100kHz
4. Digital Volt Meter
5. Oscilloscope
6. DC Power Supply
7. Monitor Scope

2-7-1. VIF Sweep Adjustment

1. Connect the H-Out of the VIF Sweep Generator to the H-In of the monitor scope.
2. Connect the Marker-Out of the VIF Sweep Generator to the Marker-In or Z-Terminal of the monitor scope.
3. Set the Channel Selector to the VHF High position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V DC.
4. Connect the jumper wire between TP701 (RF AGC) and ground.
5. Connect the 100Ω resistor between TP704 and TP705.
6. Connect the monitor scope to TP707.
7. Supply the output of the VIF Sweep Generator to Test Point of the Tuner.

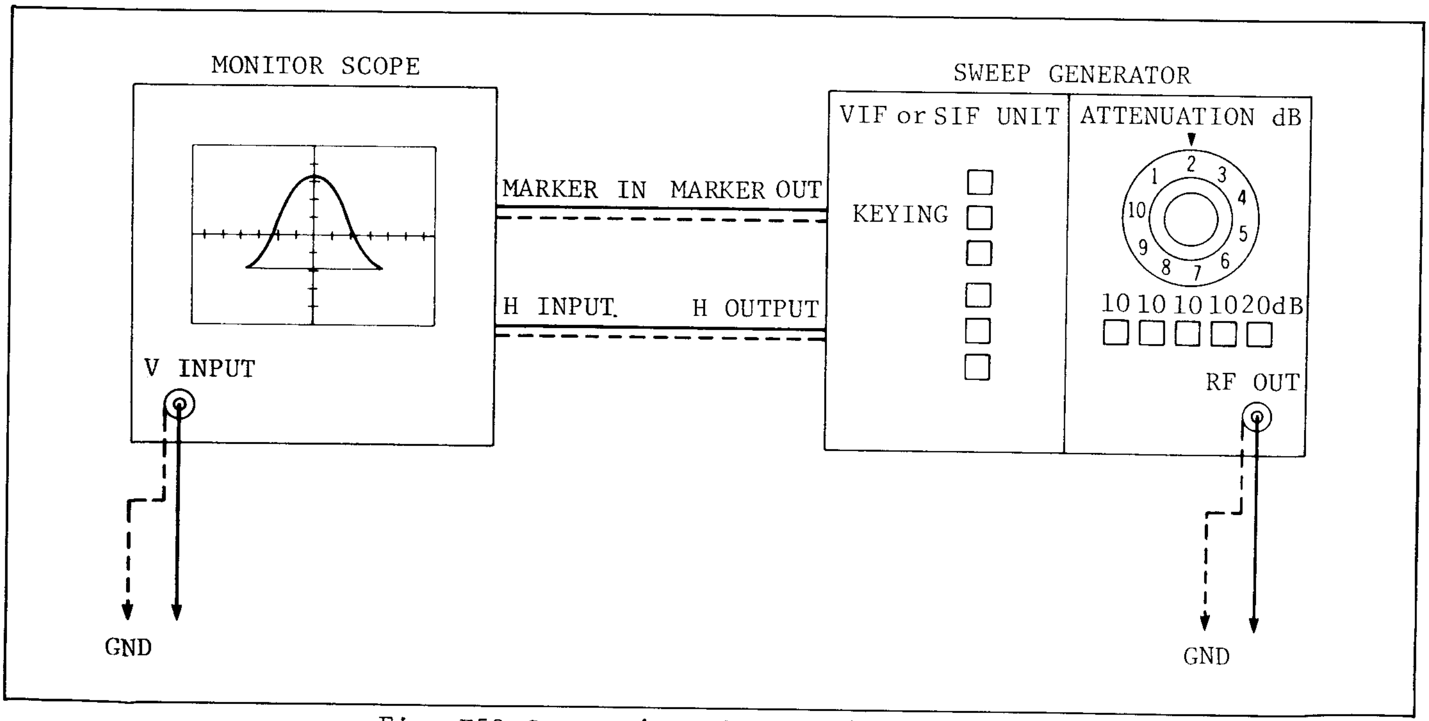

MONITOR SCOPE
SWEEP GENERATOR
VIF or SIF UNIT
ATTENUATION dB
MARKER IN
MARKER OUT
KEYING
1
2
3
4
5
6
7
8
9
10
H INPUT
H OUTPUT
10 10 10 10 20dB
V INPUT
RF OUT
GND
GND

Fig. E50 Connection of Measuring Equipment

8. Adjust the output of the VIF Sweep Generator so that the level of VIF waveform becomes 1.0Vp-p.
9. Release 20dB from the attenuator of the Sweep Generator.
10. Set the DC Power Supply at TP709, and supply the Voltage so that the level of VIF waveform becomes 1.0Vp-p.
11. Adjust T702 so that the attenuation of the 33.4MHz trap becomes minimum.
12. Adjust T701 (a) so that the attenuation of the 40.4MHz trap becomes minimum.
13. Adjust the Tuner Converter Coil, IF AMP Cool T700 and HLB Transformer T701 so that the sweep output waveform becomes as follows.

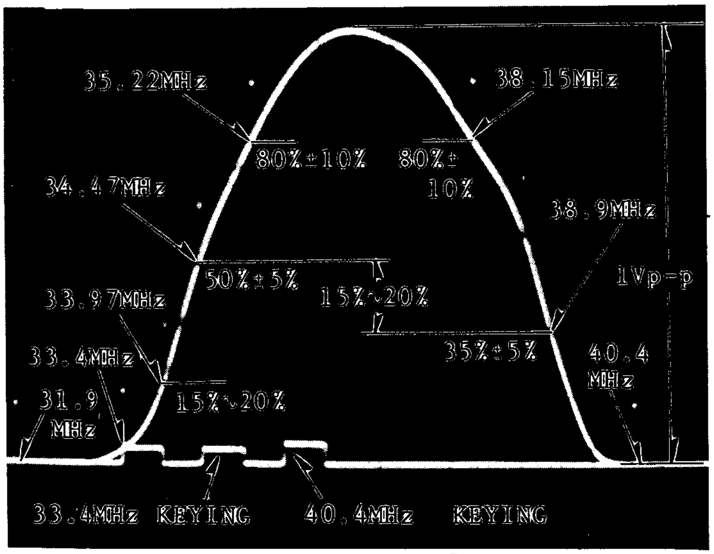
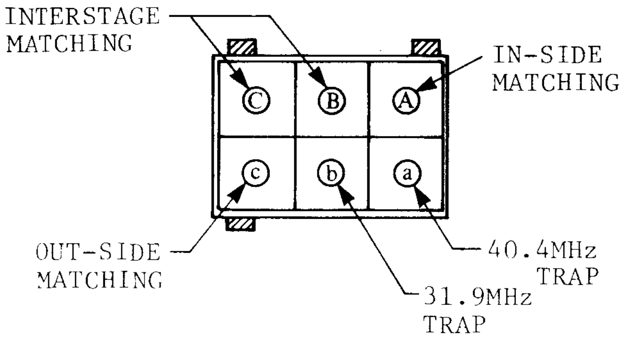


Fig.E51 VIF Waveform



* B coil for Interstage Matching is preset, so the adjustment is not required normally.

Fig. E52 HLB Transformer T701

2-7-2. Selective Coil Adjustment

1. Connection of measuring equipment is the same as in the VIF Sweep Adjustment.
2. Remove the 100Ω jumper wire.
3. Connect the output of the VIF Sweep Generator to TP703.
4. Setting of the output level of the DC Power Supply is same with that of VIF waveform adjustment.
5. Turn T704 2 turns clockwise or counterclockwise.
6. Adjust the output of the VIF Sweep Generator so that the sweep wave becomes 2Vp-p.
7. Adjust T703 so that the marker position at 38.9MHz is the peak of the wave as shown below.

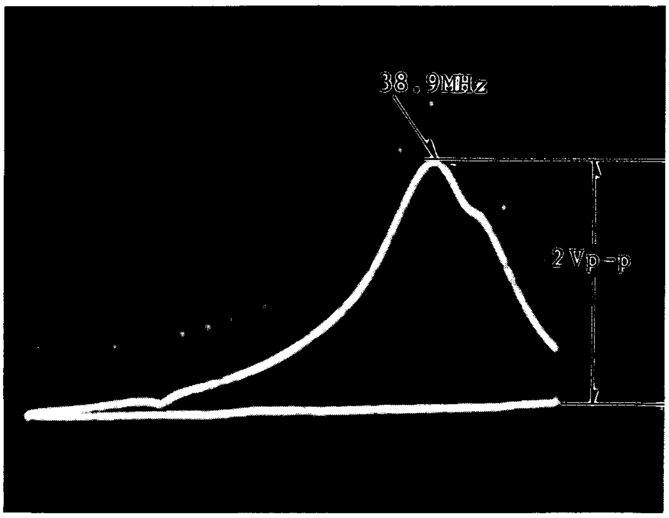


Fig. E53

8. After above adjustment, adjust T704 so that the marker position at 38.9MHz is as shown below.

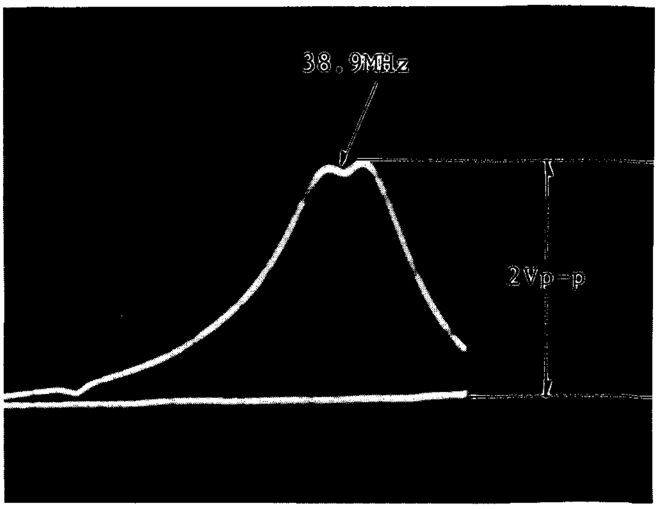


Fig. E54

2-7-3. SIF Sweep Adjustment

1. Connect the H-Out of the SIF Sweep Generator to the H-In of the monitor scope.
2. Connect the Marker-Out of the SIF Sweep Generator to the Marker-In or Z-terminal of the monitor scope.
3. Connect the oscilloscope to the output of the SIF Sweep Generator and set the sweep output to 700mVp-p at no load.
4. Connect the output of the SIF Sweep Generator to TP706.
5. Connect the monitor scope to TP710.
6. Turn R755 fully clockwise.
7. Adjust T752 so that the attenuation of 5.5MHz trap becomes minimum.
8. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as shown below.

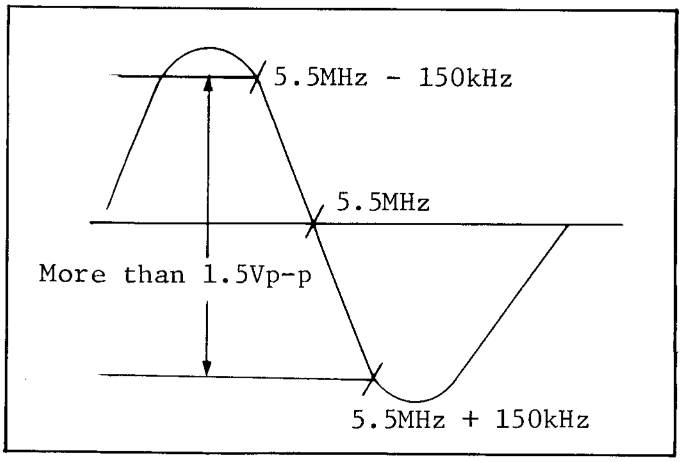


Fig. E55 SIF Waveform

9. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-7-4. AFC Adjustment

1. Set the CW oscillator so that the 38.9MHz CW signal becomes 1Vp-p.
2. Supply this signal to the Tuner Test Point.
3. Set the channel Selector to the VHF High Position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V.
4. Connect the Digital Voltmeter to the Tuner AFC terminal TP702.
5. Confirm the reading "A" of the Digital Voltmeter is between 6.4V and 6.8V, when the AFC switch is off.
6. Set the AFC switch is "ON".
7. Adjust T704 so that the level at the Tuner AFC terminal TP702 becomes "A" ± 0.3V.
8. Change the frequency of the CW oscillator ±100kHz, centered at 38.9MHz and confirm that the difference of the AFC voltage is more than ±3V.

2-7-5. Confirmation of Video Level and Adjustment of Burst Level

1. Supply the PAL Standard Colour Bar signal to RF In terminal and tune this signal and set the AFC SW.
2. Connect the oscilloscope to TP711.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust resistor R728 so that the burst level becomes 240 ± 10mVp-p as shown below.

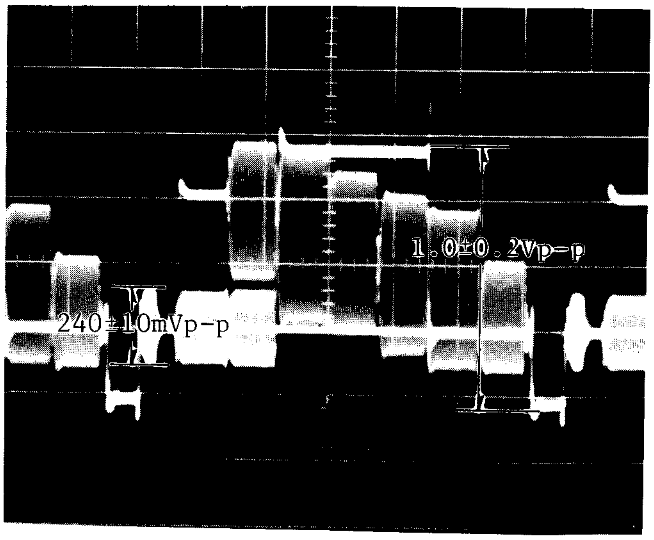
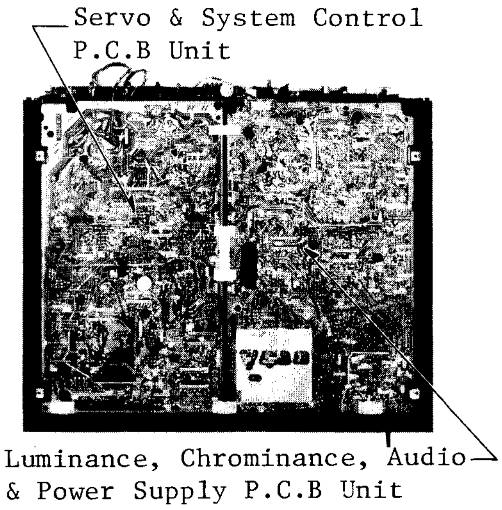
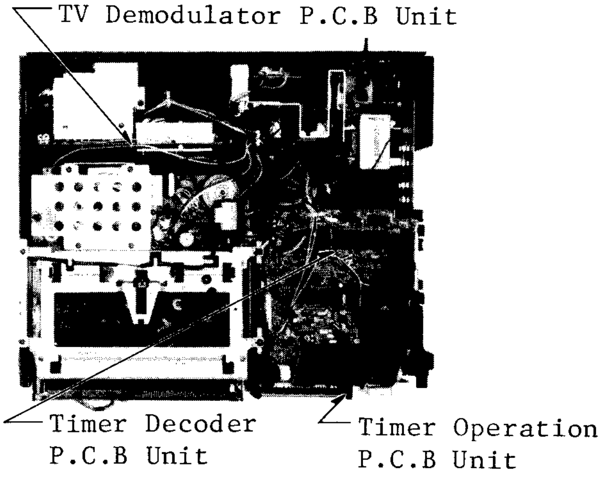


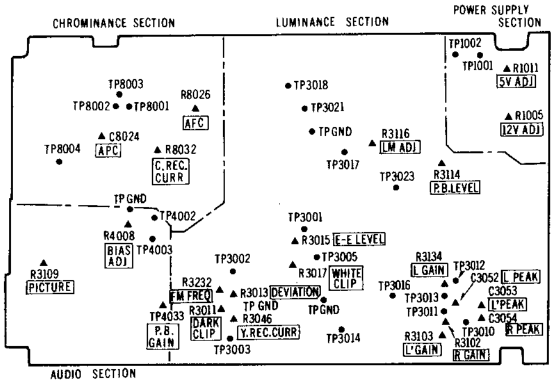
Fig. E56

LOCATION OF TEST POINTS & CONTROLS

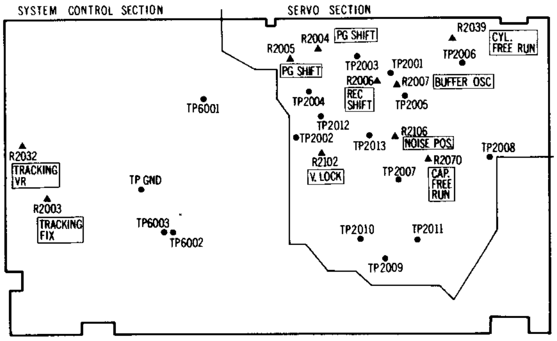

Servo & System Control P.C.B Unit
Luminance, Chrominance, Audio & Power Supply P.C.B Unit


TV Demodulator P.C.B Unit
Timer Decoder P.C.B Unit
Timer Operation P.C.B Unit

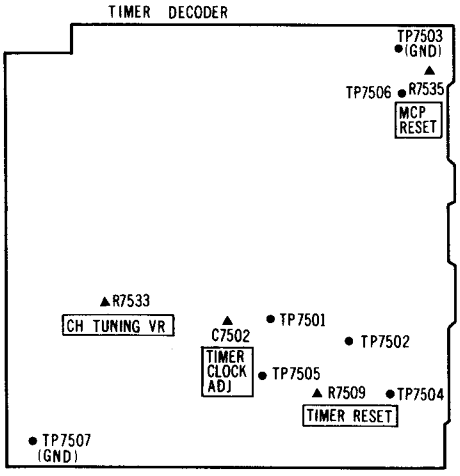
LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY P.C.B UNIT(VEP03191A)


CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
AUDIO SECTION
TP8003
TP8002
TP8001
R8026
AFC
C8024
APC
TP8004
R8032
C.REC. CURR
TP GND
TP4002
R4008
BIAS ADJ
TP4003
R3109
PICTURE
TP3002
R3232
FM FREQ
R3013
DEVIATION
TP4033
P.B. GAIN
R3011
DARK CLIP
TP GND
R3046
Y.REC.CURR
TP3003
TP3018
TP3021
TP GND
R3116
LM ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TP GND
TP3014
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
R PEAK
TP3010
R3103
L'GAIN
R3102
R GAIN
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ

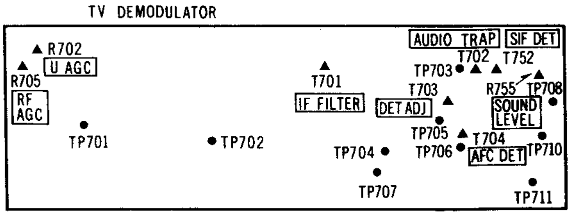
SERVO & SYSTEM CONTROL P.C.B UNIT(VEP02176A)


SYSTEM CONTROL SECTION
SERVO SECTION
R2004
PG SHIFT
R2005
PG SHIFT
R2039
CYL. FREE RUN
TP2006
TP2003
TP2001
R2006
R2007
BUFFER OSC
REC SHIFT
TP2004
TP2005
TP6001
TP2012
TP2002
TP2013
R2106
NOISE POS
TP2008
R2102
V. LOCK
R2070
TP2007
CAP. FREE RUN
R2032
TRACKING VR
TP GND
R2003
TRACKING FIX
TP6003
TP6002
TP2010
TP2011
TP2009

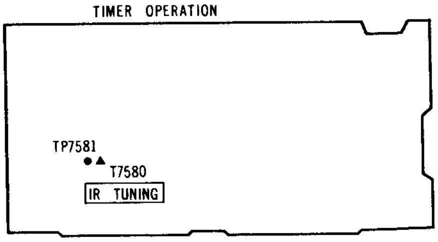
TIMER DECODER P.C.B UNIT (VEP07179A)


TIMER DECODER
TP7503 (GND)
TP7506
R7535
MCP RESET
R7533
CH TUNING VR
C7502
TIMER CLOCK ADJ
TP7501
TP7502
TP7505
R7509
TP7504
TIMER RESET
TP7507 (GND)

TV DEMODULATOR P.C.B UNIT (VEP07177A/B)


TV DEMODULATOR
R702
U AGC
R705
RF AGC
TP701
TP702
T701
IF FILTER
AUDIO TRAP
SIF DET
T702
T752
TP703
T703
DET ADJ
R755
TP708
SOUND LEVEL
TP705
T704
TP704
TP706
AFC DET
TP710
TP707
TP711

TIMER OPERATION P.C.B UNIT (VEP07178A)


TIMER OPERATION
TP7581
T7580
IR TUNING

ORDER NO. VRD-8306-430

Service Manual

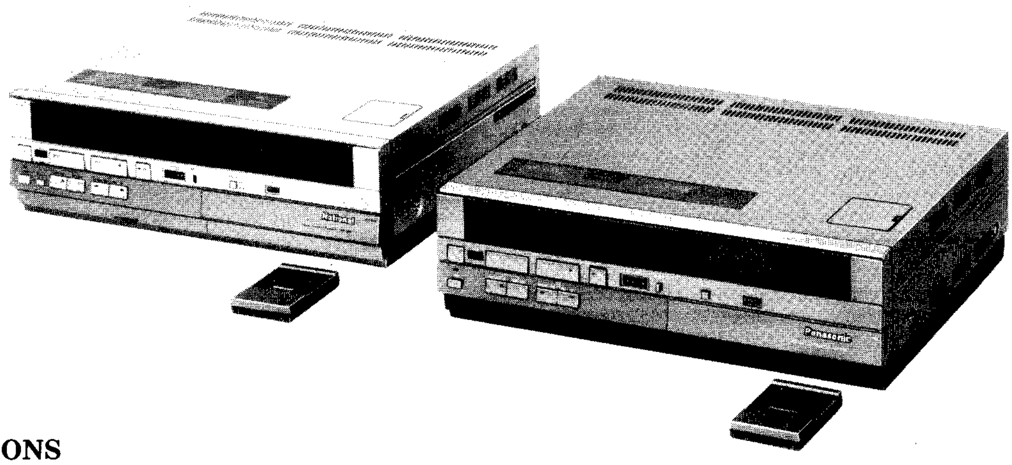
Video Cassette Recorder

National/Panasonic VHS

NV-600-E -EN

Vol. 3

Block Diagrams
Schematic Diagrams



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-600-E)
110/220V AC 50/60Hz (NV-600-EN)
Power Consumption: Approx. 38 watts
Television System: CCIR: 625 lines, 50 fields
PAL colour signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240min. with NV-E240
FF/REW Time: Less than 4.5min. with NV-E180
Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L′ Head) (field still)
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack (Phono jack)
More than −20dB, 50kΩ
TV Tuners: VHF CH2 ~ CH12
UHF CH21 ~ CH69

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack (Phono jack)
−6dB, less than 1kΩ
RF Modulated: UHF CH36 ± 4 (NV-600-E)
VHF CH3/CH4 (NV-600-EN)
76dBμ 75Ω unbalanced
Weight: 9.8kg
Dimensions: 430(W) × 129(H) × 373(D)mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-600-EN only)
1 pc. Wireless Remote Controller, (VSQ0305; NV-600-E) (VSQ0306; NV-600-EN)
Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240min.
NV-E180 Approx. 258m, 180min.
NV-E120 Approx. 174m, 120min.
NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

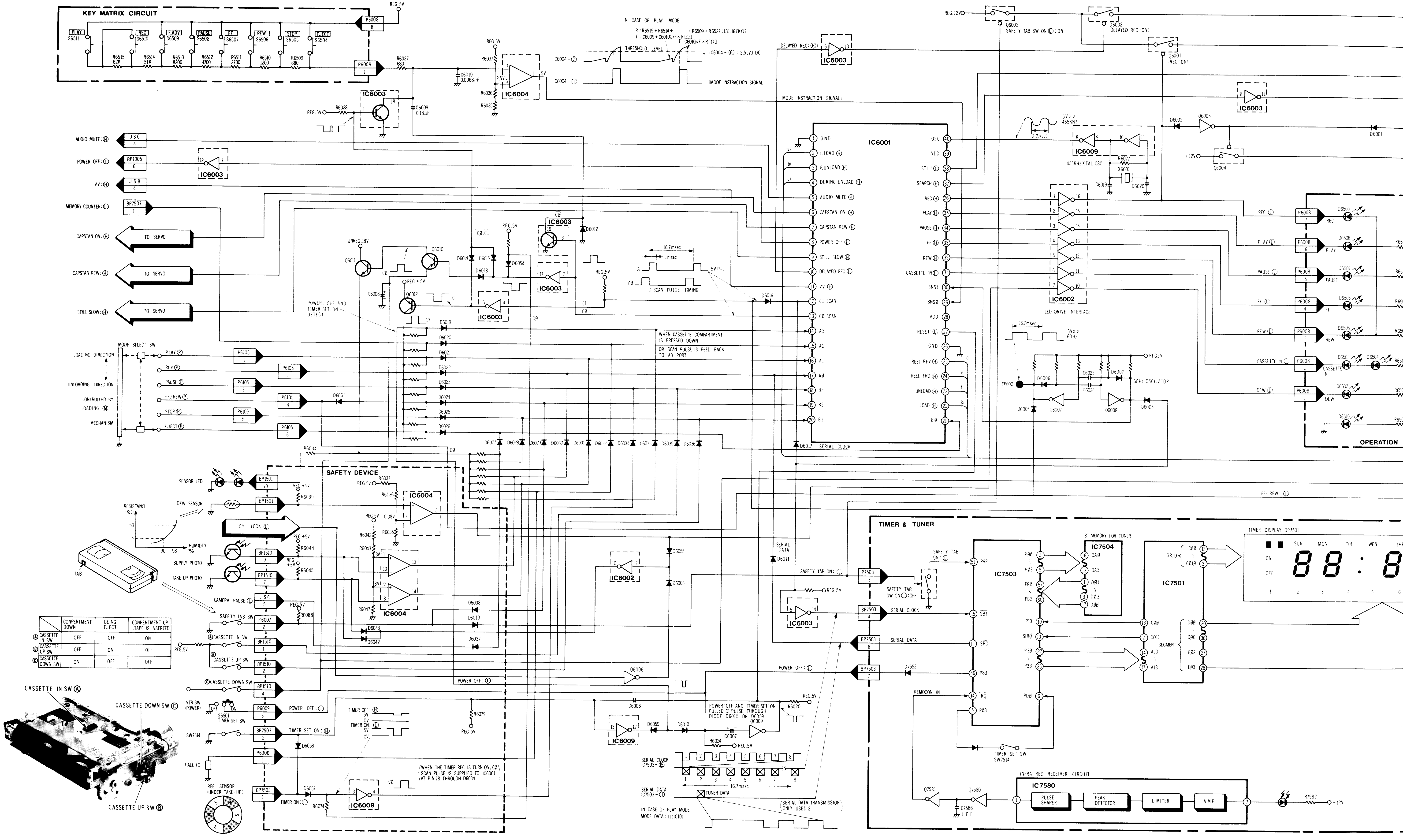
National/Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

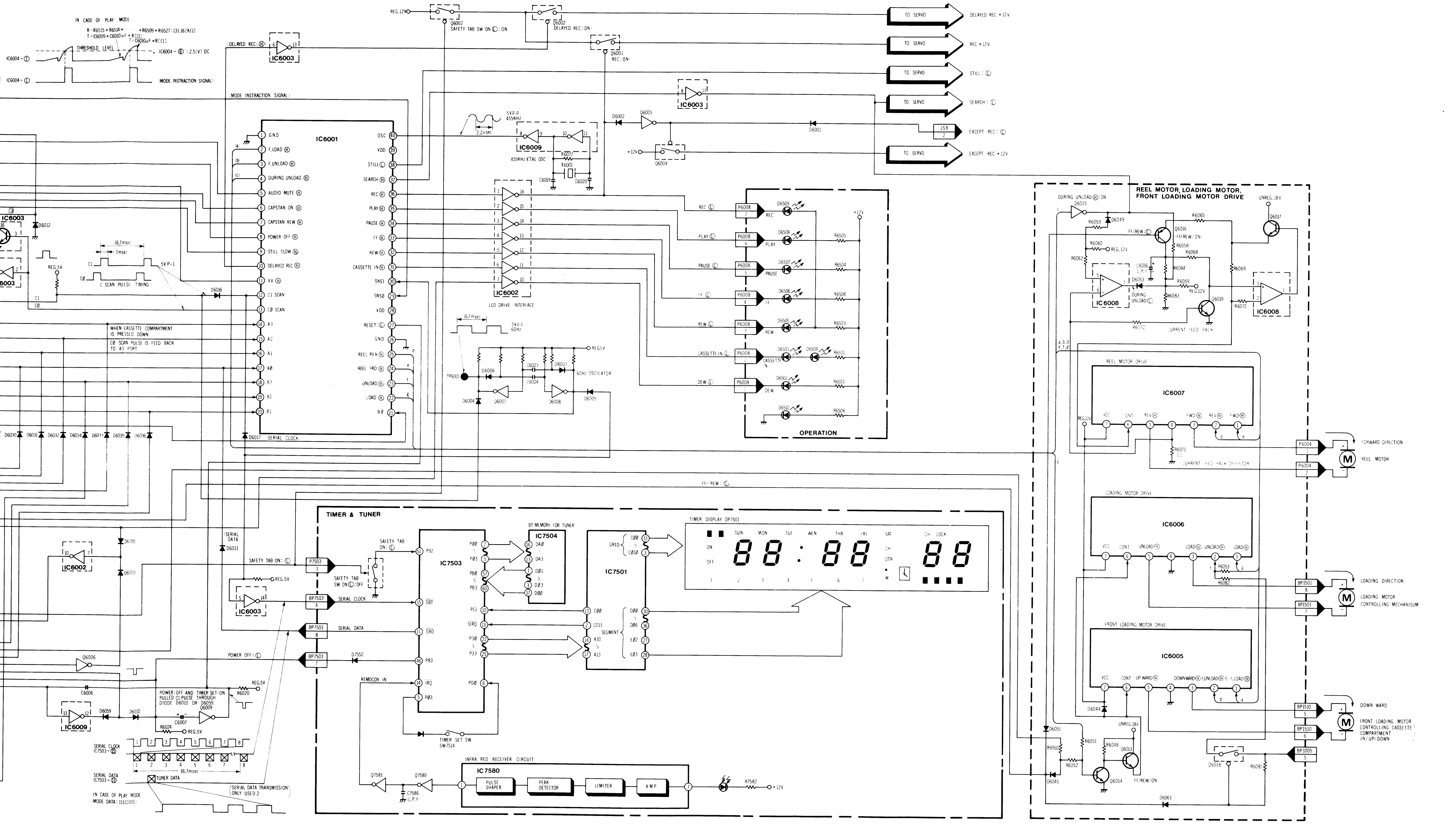
CONTENTS

SPECIFICATIONS .... Cover
BLOCK DIAGRAM
 SYSTEM CONTROL 3-1
 LUMINANCE PROCESS 3-2
 CHROMINANCE PROCESS 3-3
 SERVO 3-4
 PROGRAMMABLE TIMER 3-5
 TV DEMODULATOR & SYNTHESIZER TUNER 3-6
POWER TRANSFORMER & POWER SUPPLY CIRCUIT 3-7
LUMINANCE & CHROMINANCE CIRCUIT 3-8
AUDIO CIRCUIT 3-9
SYSTEM CONTROL CIRCUIT 3-10
MICROPROCESSOR MODE BY MODE TIMING CHART 3-10
SERVO CIRCUIT 3-13
TIMER OPERATION & TIMER DECODER CIRCUIT 3-15
OPERATION CIRCUIT 3-16
TV DEMODULATOR CIRCUIT 3-19
RF CONVERTER CIRCUIT (NV-600E) 3-20
RF CONVERTER CIRCUIT (NV-600EN) 3-21
IR REMOTE CONTROL TRANSMITTER CIRCUIT 3-22
SMALL CIRCUIT BOARD 3-22
CIRCUIT BOARD LAYOUT 3-24
INTERCONNECTION SCHEMATIC DIAGRAM 3-25

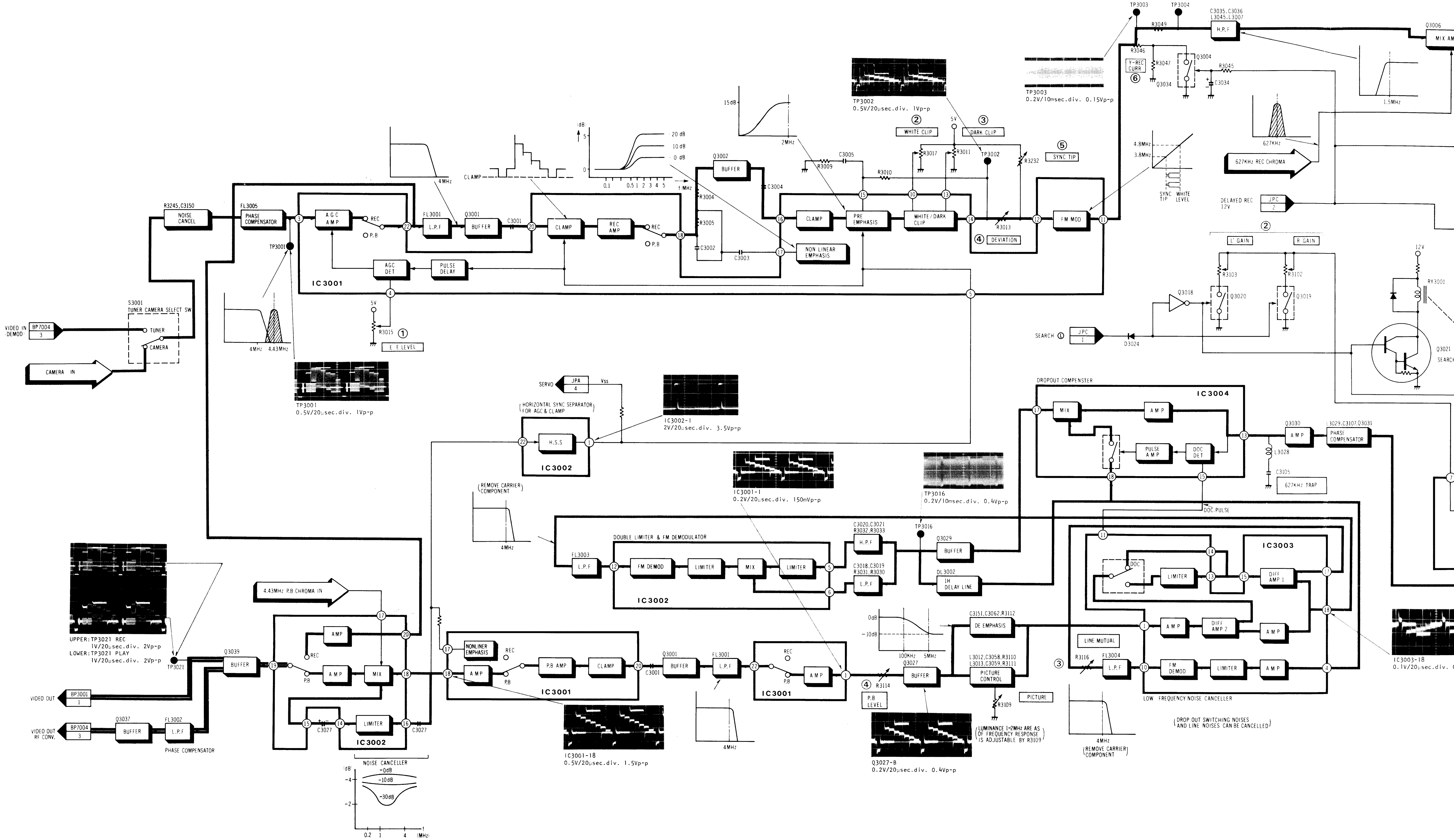
SYSTEM CONTROL BLOCK DIAGRAM


KEY MATRIX CIRCUIT
PLAY S6511
REC S6510
F.ADV S6509
PAUSE S6508
FF S6507
REW S6506
STOP S6505
EJECT S6504
REG.5V
P6008
P6009
IC6003
IC6004
IC6001
IC6002
IC6009
REG.12V
Q6002 SAFETY TAB SW ON Ⓛ : ON
Q6002 DELAYED REC : ON
Q6001 REC : ON
IN CASE OF PLAY MODE
THRESHOLD LEVEL
MODE INSTRACTION SIGNAL
DELAYED REC : Ⓗ
AUDIO MUTE : Ⓗ
POWER OFF : Ⓛ
VV : Ⓗ
MEMORY COUNTER : Ⓛ
CAPSTAN ON : Ⓗ
CAPSTAN REW : Ⓗ
STILL SLOW : Ⓗ
TO SERVO
GND
F.LOAD Ⓗ
F.UNLOAD Ⓗ
DURING UNLOAD Ⓗ
AUDIO MUTE Ⓗ
CAPSTAN ON Ⓗ
CAPSTAN REW Ⓗ
POWER OFF Ⓗ
STILL SLOW Ⓗ
DELAYED REC Ⓗ
VV Ⓗ
C1 SCAN
C0 SCAN
OSC
VDD
STILL Ⓛ
SEARCH Ⓗ
REC Ⓗ
PLAY Ⓗ
PAUSE Ⓗ
FF Ⓗ
REW Ⓗ
CASSETTE IN Ⓗ
RESET Ⓛ
REEL REV Ⓗ
REEL FRD Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
SERIAL CLOCK
455KHz XTAL OSC
LED DRIVE INTERFACE
60Hz OSCILATOR
OPERATION
MODE SELECT SW
LOADING DIRECTION
UNLOADING DIRECTION
CONTROLLED BY LOADING Ⓜ MECHANISM
P6105
WHEN CASSETTE COMPARTMENT IS PRESSED DOWN
C0 SCAN PULSE IS FEED BACK TO A3 PORT
POWER : OFF AND TIMER SET ON DETECT
C SCAN PULSE TIMING
16.7msec
SAFETY DEVICE
SENSOR LED
DEW SENSOR
RESISTANCE
HUMIDITY (%)
CYL LOCK Ⓛ
SUPPLY PHOTO
TAKE UP PHOTO
CAMERA PAUSE Ⓛ
SAFETY TAB SW
Ⓐ CASSETTE IN SW
Ⓑ CASSETTE UP SW
Ⓒ CASSETTE DOWN SW
VTR SW POWER
S6501 TIMER SET SW
SW7514
HALL IC
REEL SENSOR (UNDER TAKE-UP)
CASSETTE IN SW Ⓐ
CASSETTE DOWN SW Ⓒ
CASSETTE UP SW Ⓑ
TAB
POWER OFF : Ⓛ
TIMER SET ON : Ⓗ
TIMER ON : Ⓛ
(WHEN THE TIMER REC IS TURN ON, C0 SCAN PULSE IS SUPPLIED TO IC6001 AT PIN 18 THROUGH D6034.
POWER : OFF AND TIMER SET : ON PULLED C1 PULSE THROUGH DIODE D6010 OR D6059.
SERIAL CLOCK IC7503 - ⑮
SERIAL DATA IC7503 - ⑪
TUNER DATA
(SERIAL DATA TRANSMISSION ONLY USED 2
IN CASE OF PLAY MODE MODE DATA : 11110101
TIMER & TUNER
SAFETY TAB ON : Ⓛ
SERIAL CLOCK
SERIAL DATA
REMOCON IN
IC7503
IC7504
BT MEMORY FOR TUNER
IC7501
TIMER DISPLAY DP7501
SUN MON TUE WED THU
ON OFF
88 : 8
TIMER SET SW SW7514
INFRA RED RECEIVER CIRCUIT
IC7580
PULSE SHAPER
PEAK DETECTOR
LIMITER
AMP
Q7581
Q7580
R7582
+12V

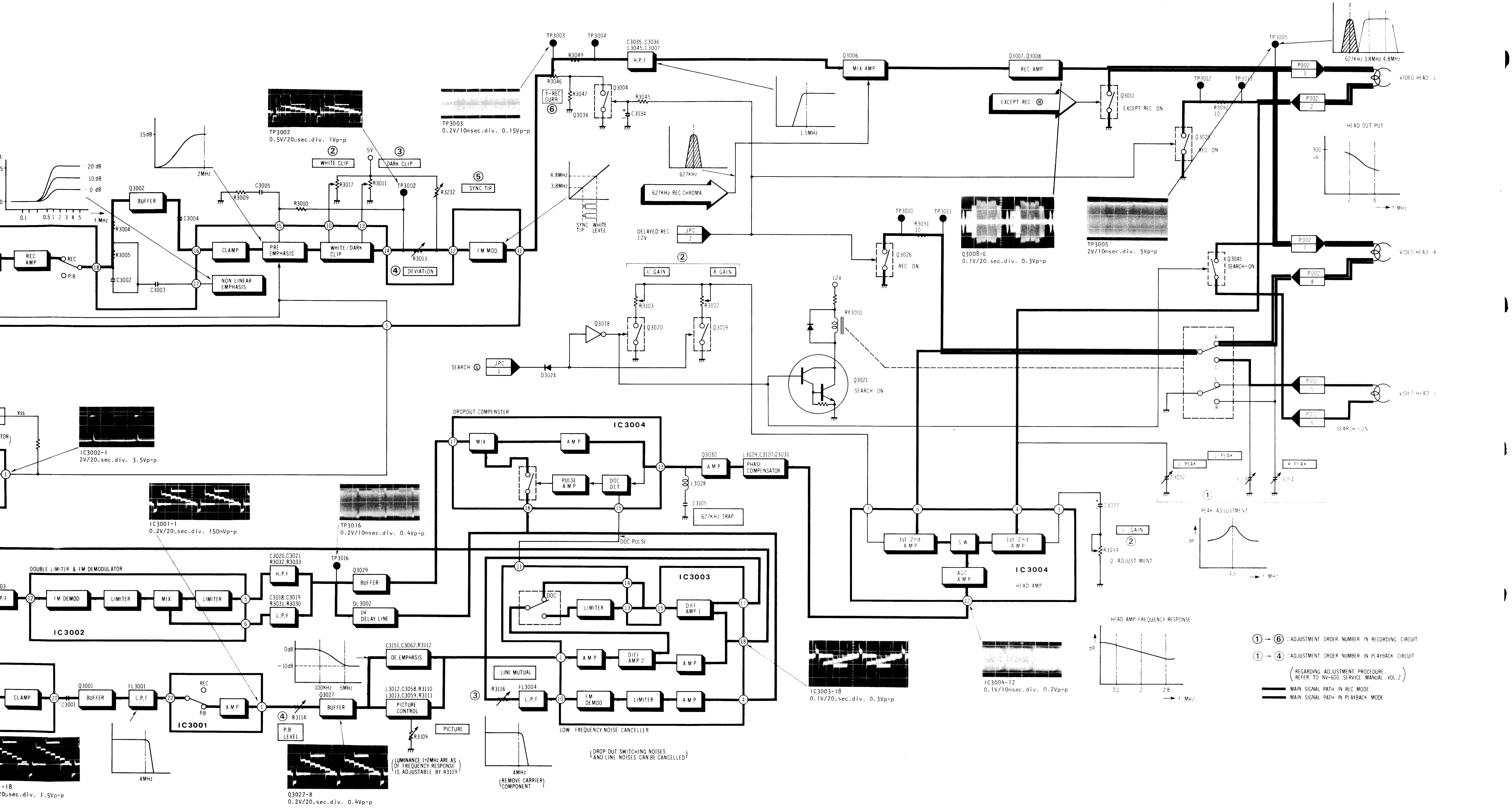
	CONPERTMENT DOWN	BEING EJECT	CONPERTMENT UP (TAPE IS INSERTED)
Ⓐ CASSETTE IN SW	OFF	OFF	ON
Ⓑ CASSETTE UP SW	OFF	ON	OFF
Ⓒ CASSETTE DOWN SW	ON	OFF	OFF


IN CASE OF PLAY MODE
R = R6515 + R6514 + R6509 + R6527 : 131.16 [KΩ]
T = (C6009 + C6010) μF × R [Ω]
T = C6008 μF × R [Ω]
THRESHOLD LEVEL
IC6004 - ⑦
IC6004 - ⑥ : 2.5 [V] DC
IC6004 - ①
(MODE INSTRACTION SIGNAL)
(DELAYED REC : Ⓗ)
IC6003
REG.12V
Q6002
SAFETY TAB SW ON Ⓛ : ON
Q6002
DELAYED REC : ON
Q6001
(REC : ON)
TO SERVO
DELAYED REC + 12V
REC + 12V
STILL : Ⓛ
SEARCH : Ⓛ
JSB
EXCEPT REC : Ⓛ
EXCEPT REC + 12V
D6002
Q6005
D6001
+12V
Q6004
IC6001
GND
F.LOAD Ⓗ
F.UNLOAD Ⓗ
DURING UNLOAD Ⓗ
AUDIO MUTE Ⓗ
CAPSTAN ON Ⓗ
CAPSTAN REW Ⓗ
POWER OFF Ⓗ
STILL SLOW Ⓗ
DELAYED REC Ⓗ
VV Ⓗ
C1 SCAN
C0 SCAN
A3
A2
A1
A0
B3
B2
B1
OSC
VDD
STILL Ⓛ
SEARCH Ⓗ
REC Ⓗ
PLAY Ⓗ
PAUSE Ⓗ
FF Ⓗ
REW Ⓗ
CASSETTE IN Ⓗ
SNS1
SNS0
VDD
RESET Ⓛ
GND
REEL REV Ⓗ
REEL FRD Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
B0
5VP-P
455KHz
2.2μsec
IC6009
R6007
X6001
C6019
C6020
455KHz X'TAL OSC
IC6002
LED DRIVE INTERFACE
16.7msec
1msec
C1
C0
C SCAN PULSE TIMING
5V P-P
D6016
D6012
REG.5V
WHEN CASSETTE COMPARTMENT IS PRESSED DOWN
C0 SCAN PULSE IS FEED BACK TO A3 PORT
5VP-P
60Hz
TP6001
D6006
C6023
C6024
D6027
D6004
D6007
D6008
D6005
REG.5V
60Hz OSCILATOR
D6017
SERIAL CLOCK
D6030
D6031
D6032
D6034
D6035
D6036
OPERATION
REC Ⓛ
PLAY Ⓛ
PAUSE Ⓛ
FF Ⓛ
REW Ⓛ
CASSETTE IN Ⓛ
DEW Ⓛ
P6008
D6509
D6508
D6507
D6506
D6505
D6503
D6504
D6502
D6510
R6505
R6504
R6508
R6503
R6502
R6501
R6506
REC
PLAY
PAUSE
FF
REW
CASSETTE IN
DEW
+12V
REEL MOTOR, LOADING MOTOR, FRONT LOADING MOTOR DRIVE
DURING UNLOAD Ⓗ : ON
Q6015
R6059
D6049
R6065
UNREG.18V
Q6017
Q6016
FF/REW : ON
FF/REW Ⓛ
R6058
R6060
REG.12V
R6062
R6068
C6016
L.P.F
R6064
R6069
D6053
DURING UNLOAD Ⓛ
R6059
REG.12V
R6083
Q6019
R6070
IC6008
R6072
CURRENT FEED BACK
REEL MOTOR DRIVE
IC6007
VCC
CONT
REV Ⓗ
FWD Ⓗ
REV Ⓗ
FWD Ⓗ
R6071
CURRENT FEED BACK RESISTOR
P6004
FORWARD DIRECTION
REEL MOTOR
M
FF/REW : Ⓛ
LOADING MOTOR DRIVE
IC6006
VCC
CONT
UNLOAD Ⓗ
LOAD Ⓗ
UNLOAD Ⓗ
LOAD Ⓗ
R6053
R6082
BP1501
LOADING DIRECTION
LOADING MOTOR CONTROLLING MECHANISUM
FRONT LOADING MOTOR DRIVE
IC6005
VCC
CONT
UP WARD Ⓗ
DOWNWARD Ⓗ
F.UNLOAD Ⓗ
F.LOAD Ⓗ
D6044
UNREG.18V
D6051
R6051
R6048
Q6013
R6050
R6052
Q6014
FF/REW : ON
D6045
D6061
Q6018
R6081
BP1510
BP1005
DOWN WARD
FRONT LOADING MOTOR CONTROLLING CASSETTE COMPARTMENT IN/UP/DOWN
IC6003
IC6002
D6055
D6003
SERIAL DATA
D6011
REG.5V
IC6003
Q6006
C6006
IC6009
D6059
D6010
POWER : OFF AND TIMER SET : ON PULLED C1 PULSE THROUGH DIODE D6010 OR D6059.
Q6009
R6020
REG.5V
R6024
C6007
REG.5V
SERIAL CLOCK IC7503 - ⑮
SERIAL DATA IC7503 - ⑪
16.7msec
TUNER DATA
IN CASE OF PLAY MODE
MODE DATA : 11110101
(SERIAL DATA TRANSMISSION ONLY USED 2)
TIMER & TUNER
SAFETY TAB ON : Ⓛ
P7503
BP7503
SERIAL CLOCK
SERIAL DATA
POWER OFF : Ⓛ
D7552
SAFETY TAB ON : Ⓛ
SAFETY TAB SW ON Ⓛ : OFF
IC7503
P92
P00
P03
P80
P83
P13
SIRQ
P30
P33
SBT
SBO
P83
IRQ
P03
PD0
REMOCON IN
TIMER SET SW
SW7514
BT MEMORY FOR TUNER
IC7504
DA0
DA3
D01
D03
D00
IC7501
GRID
C00
C010
C00
C011
A10
A13
SEGMENT
D00
D06
E02
E03
TIMER DISPLAY DP7501
SUN
MON
TUE
WEN
THR
FRI
SAT
ON
OFF
CH
OTR
W
CH LOCK
INFRA RED RECEIVER CIRCUIT
IC7580
PULSE SHAPER
PEAK DETECTOR
LIMITER
AMP
Q7581
Q7580
C7586
L.P.F
R7582
+12V

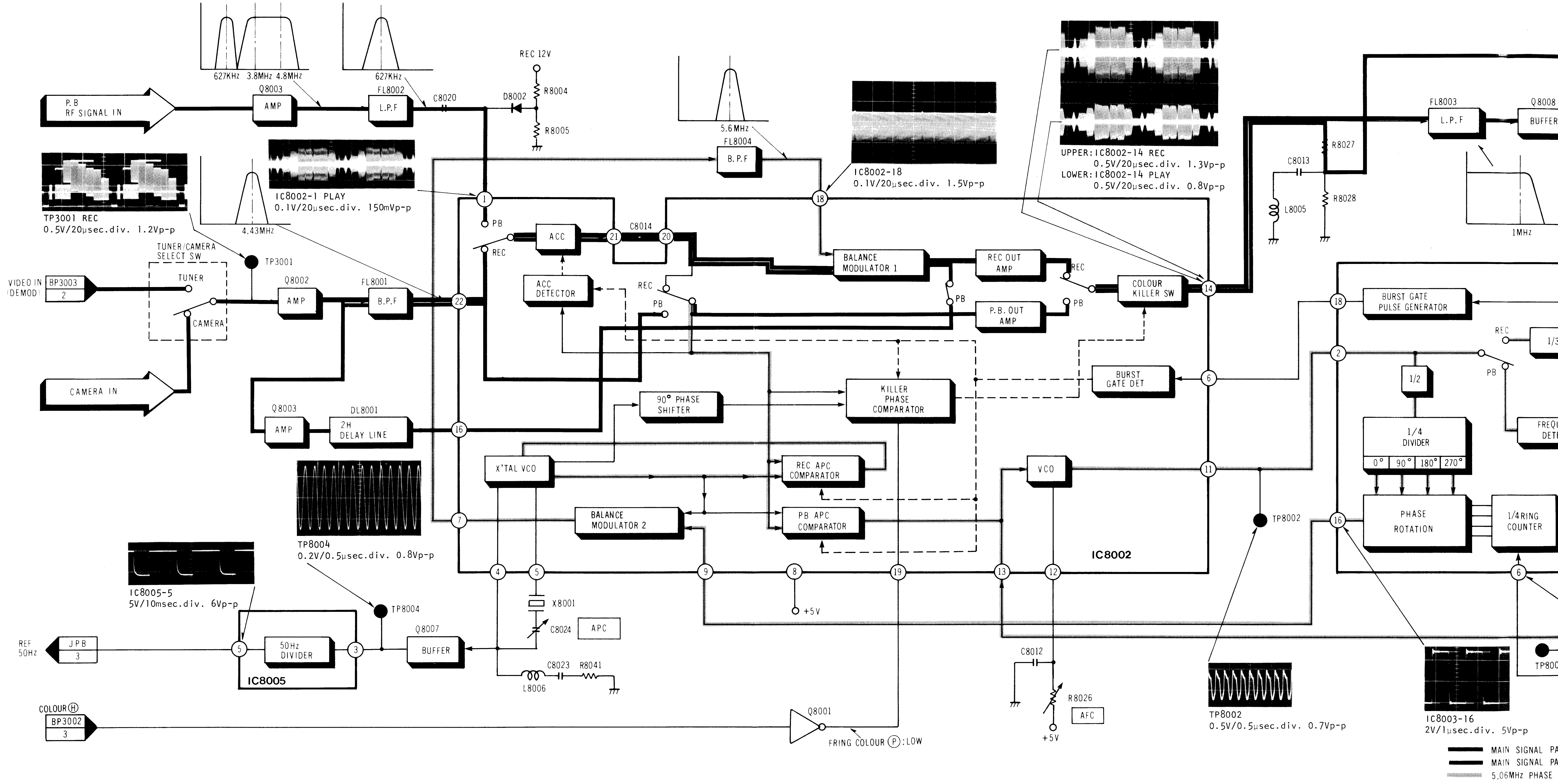
LUMINANCE PROCESS BLOCK DIAGRAM



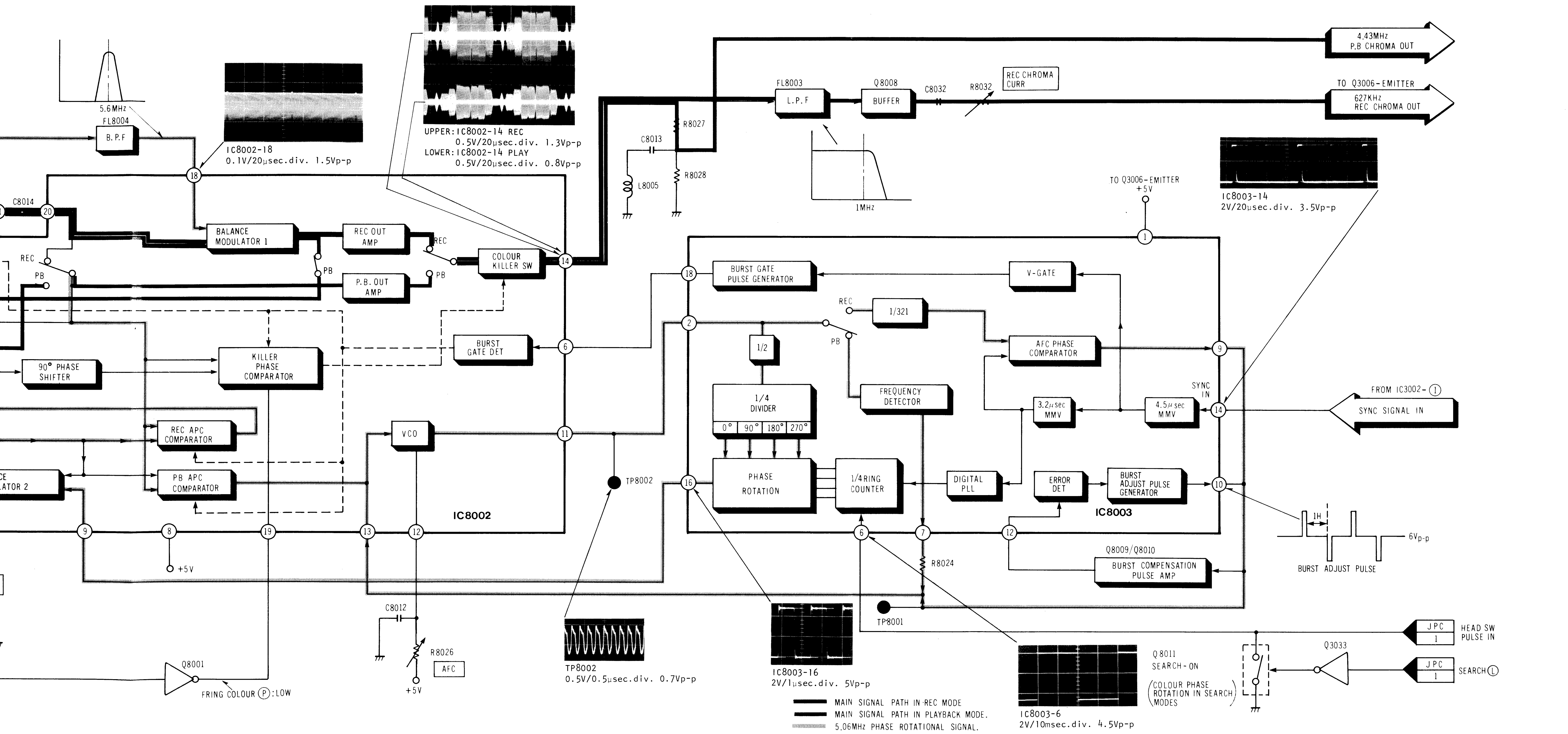
VIDEO IN DEMOD
BP7004 3
S3001 TUNER CAMERA SELECT SW
TUNER
CAMERA
CAMERA IN
R3245,C3150
NOISE CANCEL
FL3005
PHASE COMPENSATOR
TP3001
AGC AMP
REC
P.B
AGC DET
PULSE DELAY
IC3001
5V
R3015 ①
E-E LEVEL
4MHz 4.43MHz
TP3001
0.5V/20μsec.div. 1Vp-p
FL3001
L.P.F
4MHz
Q3001
BUFFER
C3001
CLAMP
REC AMP
CLAMP
dB
20 dB
10 dB
0 dB
0.1 0.5 1 2 3 4 5 f MHz
Q3002
BUFFER
R3004
R3005
C3002
C3003
C3004
15dB
2MHz
NON LINEAR EMPHASIS
C3005
R3009
R3010
PRE EMPHASIS
TP3002
0.5V/20μsec.div. 1Vp-p
② WHITE CLIP
③ DARK CLIP
5V
R3017
R3011
TP3002
R3232
⑤ SYNC TIP
WHITE/DARK CLIP
R3013
④ DEVIATION
FM MOD
TP3003
0.2V/10msec.div. 0.15Vp-p
4.8MHz
3.8MHz
SYNC TIP
WHITE LEVEL
TP3003
TP3004
R3049
R3046
Y-REC CURR ⑥
R3047
Q3034
Q3004
R3045
C3034
C3035,C3036 L3045,L3007
H.P.F
1.5MHz
Q3006
MIX AM
627KHz
627KHz REC CHROMA
DELAYED REC 12V
JPC 2
②
L GAIN
R GAIN
R3103
R3102
Q3018
Q3020
Q3019
12V
RY3001
SEARCH
JPC 1
D3024
Q3021
SEARCH
SERVO
JPA 4
Vss
HORIZONTAL SYNC SEPARATOR FOR AGC & CLAMP
H.S.S
IC3002
IC3002-1
2V/20μsec.div. 3.5Vp-p
REMOVE CARRIER COMPONENT
4MHz
IC3001-1
0.2V/20μsec.div. 150mVp-p
TP3016
0.2V/10msec.div. 0.4Vp-p
DROPOUT COMPENSTER
IC3004
MIX
AMP
PULSE AMP
DOC DET
Q3030
AMP
L3029,C3107,Q3031
PHASE COMPENSATOR
L3028
C3105
627KHz TRAP
DOC PULSE
FL3003
L.P.F
DOUBLE LIMITER & FM DEMODULATOR
FM DEMOD
LIMITER
MIX
LIMITER
IC3002
C3020,C3021 R3032,R3033
H.P.F
C3018,C3019 R3031,R3030
L.P.F
TP3016
Q3029
BUFFER
DL3002
1H DELAY LINE
IC3003
DOC
LIMITER
DIFF AMP 1
AMP
DIFF AMP 2
AMP
LINE MUTUAL
③
R3116
FL3004
L.P.F
FM DEMOD
LIMITER
AMP
LOW FREQUENCY NOISE CANCELLER
DROP OUT SWITCHING NOISES AND LINE NOISES CAN BE CANCELLED
4MHz
REMOVE CARRIER COMPONENT
IC3003-18
0.1V/20μsec.div.
UPPER: TP3021 REC 1V/20μsec.div. 2Vp-p
LOWER: TP3021 PLAY 1V/20μsec.div. 2Vp-p
TP3021
Q3039
BUFFER
VIDEO OUT
BP3001 1
VIDEO OUT RF CONV.
BP7004 3
Q3037
BUFFER
FL3002
L.P.F
PHASE COMPENSATOR
4.43MHz P.B CHROMA IN
AMP
REC
P.B
AMP
MIX
C3027
LIMITER
C3027
IC3002
NOISE CANCELLER
dB
-0dB
-10dB
-30dB
-4
-2
0.2 1 4 fMHz
NONLINER EMPHASIS
REC
AMP
P.B
P.B AMP
CLAMP
IC3001
IC3001-18
0.5V/20μsec.div. 1.5Vp-p
Q3001
BUFFER
C3001
FL3001
L.P.F
4MHz
REC
P.B
AMP
IC3001
0dB
-10dB
100KHz 5MHz
④ R3114
P.B LEVEL
Q3027
BUFFER
Q3027-B
0.2V/20μsec.div. 0.4Vp-p
C3151,C3062,R3112
DE EMPHASIS
L3012,C3058,R3110 L3013,C3059,R3111
PICTURE CONTROL
R3109
PICTURE
LUMINANCE 1~2MHz ARE AS OF FREQUENCY RESPONSE IS ADJUSTABLE BY R3109


TP3003
TP3004
C3035, C3036
L3045, L3007
H.P.F
R3049
R3046
Y-REC CURR
⑥
R3047
Q3004
Q3034
R3045
C3034
Q3006
MIX AMP
Q3007, Q3008
REC AMP
TP3005
627KHz 3.8MHz 4.8MHz
P002 1
VIDEO HEAD L
P002 2
Q3011
EXCEPT REC ON
EXCEPT REC Ⓗ
TP3012
TP3013
R3094 10
Q3028
REC ON
HEAD OUT PUT
300 μV
2 6
f MHz
1.5MHz
627KHz
627KHz REC CHROMA
TP3002
0.5V/20μsec.div. 1Vp-p
TP3003
0.2V/10msec.div. 0.15Vp-p
15dB
2MHz
20 dB
10 dB
0 dB
0.1 0.5 1 2 3 4 5
f MHz
② WHITE CLIP
③ DARK CLIP
5V
R3017
R3011
TP3002
R3232
⑤ SYNC TIP
4.8MHz
3.8MHz
SYNC TIP
WHITE LEVEL
Q3002
BUFFER
R3004
R3005
C3002
C3003
C3004
R3009
C3005
R3010
CLAMP
PRE EMPHASIS
WHITE/DARK CLIP
R3013
④ DEVIATION
FM MOD
NON LINEAR EMPHASIS
REC AMP
REC
P.B
DELAYED REC 12V
JPC 2
TP3010
TP3011
R3091 10
Q3026
REC ON
Q3008-E
0.1V/20μsec.div. 0.3Vp-p
TP3005
2V/10msec.div. 5Vp-p
Q3045
SEARCH-ON
P002 7
VIDEO HEAD R
P002 8
②
L' GAIN
R GAIN
R3103
R3102
Q3018
Q3020
Q3019
12V
RY3001
SEARCH Ⓛ
JPC 1
D3024
Q3021
SEARCH ON
R
L
P002 5
VIDEO HEAD L
P002 6
SEARCH-ON
Vss
IC3002-1
2V/20μsec.div. 3.5Vp-p
DROPOUT COMPENSTER
IC3004
MIX
AMP
PULSE AMP
DOC DET
Q3030
AMP
L3029, C3107, Q3031
PHASE COMPENSATOR
L3028
C3105
627KHz TRAP
L PEAK
L' PEAK
R PEAK
C3052
①
PEAK ADJUSTMENT
dB
fo
f MHz
C3077
L GAIN
②
R3134
Q ADJUSTMENT
1st 2nd AMP
SW
1st 2nd AMP
AGC AMP
IC3004
HEAD AMP
IC3001-1
0.2V/20μsec.div. 150mVp-p
TP3016
0.2V/10msec.div. 0.4Vp-p
DOC PULSE
DOUBLE LIMITER & FM DEMODULATOR
FM DEMOD
LIMITER
MIX
LIMITER
IC3002
C3020, C3021
R3032, R3033
H.P.F
C3018, C3019
R3031, R3030
L.P.F
TP3016
Q3029
BUFFER
DL3002
1H DELAY LINE
IC3003
DOC
LIMITER
DIFF AMP 1
DIFF AMP 2
AMP
LINE MUTUAL
FM DEMOD
LIMITER
AMP
LOW FREQUENCY NOISE CANCELLER
(DROP OUT SWITCHING NOISES AND LINE NOISES CAN BE CANCELLED)
IC3003-18
0.1V/20μsec.div. 0.3Vp-p
IC3004-12
0.1V/10msec.div. 0.2Vp-p
HEAD AMP FREQUENCY RESPONSE
0.1 2 2.8
f MHz
0dB
-10dB
100KHz 5MHz
C3151, C3062, R3112
DE EMPHASIS
L3012, C3058, R3110
L3013, C3059, R3111
PICTURE CONTROL
R3109
PICTURE
(LUMINANCE 1-2MHz ARE AS OF FREQUENCY RESPONSE IS ADJUSTABLE BY R3109)
③
R3116
FL3004
L.P.F
4MHz
(REMOVE CARRIER COMPONENT)
CLAMP
C3001
Q3001
BUFFER
FL3001
L.P.F
4MHz
REC
P.B
AMP
IC3001
④ R3114
P.B LEVEL
Q3027
BUFFER
Q3027-B
0.2V/20μsec.div. 0.4Vp-p
-18
20μsec.div. 1.5Vp-p
① → ⑥ : ADJUSTMENT ORDER NUMBER IN RECORDING CIRCUIT
① → ④ : ADJUSTMENT ORDER NUMBER IN PLAYBACK CIRCUIT
(REGARDING ADJUSTMENT PROCEDURE. REFER TO NV-600 SERVICE MANUAL VOL.2)
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

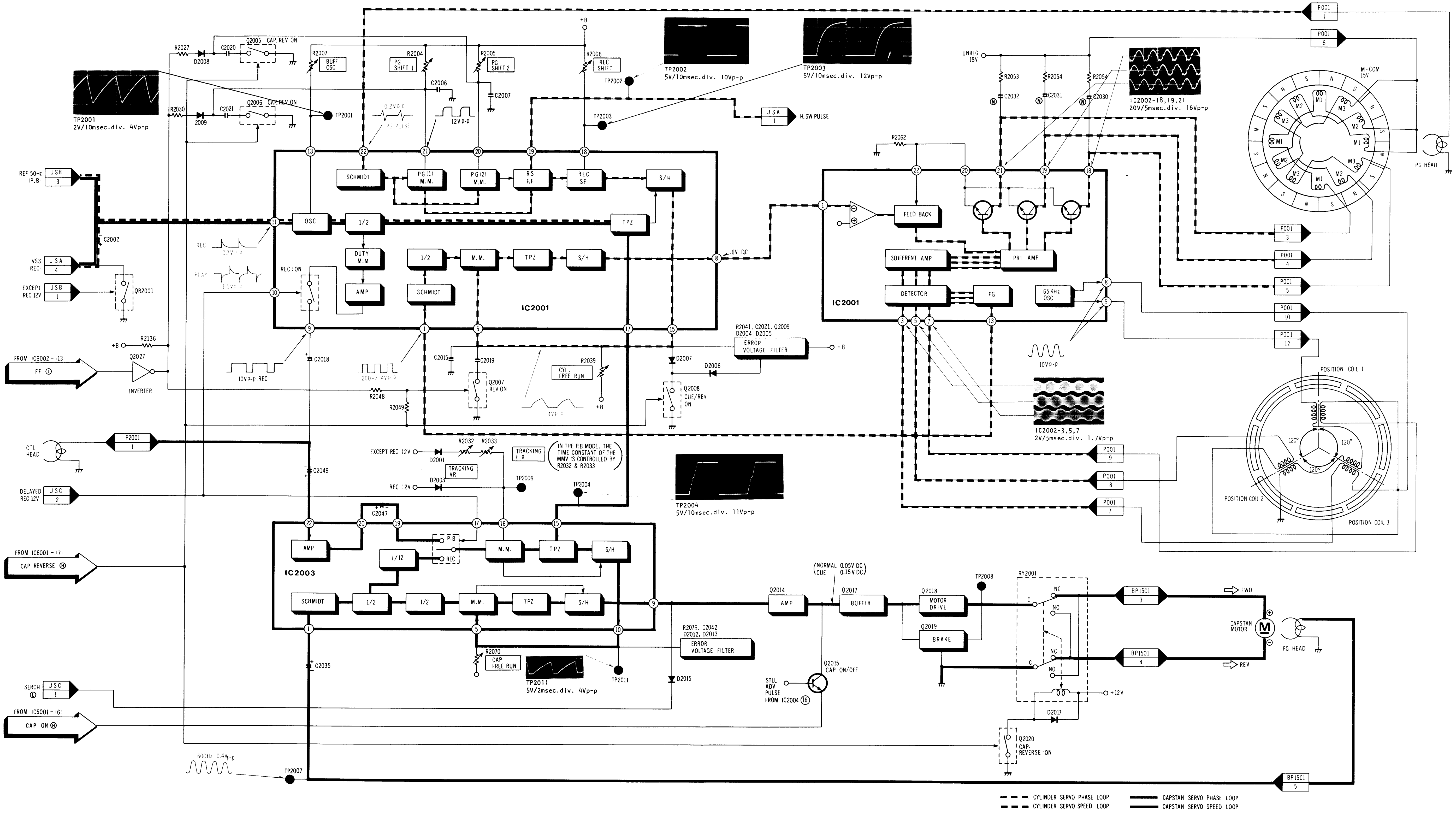
CHROMINANCE PROCESS BLOCK DIAGRAM



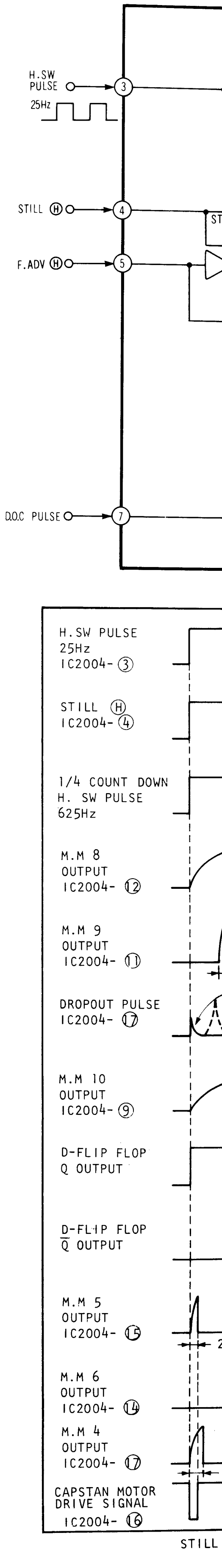
627KHz 3.8MHz 4.8MHz
627KHz
P.B RF SIGNAL IN
Q8003
AMP
FL8002
L.P.F
C8020
REC 12V
D8002
R8004
R8005
5.6MHz
FL8004
B.P.F
IC8002-18
0.1V/20μsec.div. 1.5Vp-p
UPPER:IC8002-14 REC
0.5V/20μsec.div. 1.3Vp-p
LOWER:IC8002-14 PLAY
0.5V/20μsec.div. 0.8Vp-p
FL8003
L.P.F
Q8008
BUFFER
C8013
R8027
R8028
L8005
1MHz
TP3001 REC
0.5V/20μsec.div. 1.2Vp-p
IC8002-1 PLAY
0.1V/20μsec.div. 150mVp-p
4.43MHz
TUNER/CAMERA SELECT SW
TUNER
CAMERA
TP3001
VIDEO IN (DEMOD)
BP3003
2
Q8002
AMP
FL8001
B.P.F
PB
REC
ACC
C8014
ACC DETECTOR
BALANCE MODULATOR 1
REC OUT AMP
P.B. OUT AMP
COLOUR KILLER SW
BURST GATE PULSE GENERATOR
CAMERA IN
Q8003
AMP
DL8001
2H DELAY LINE
90° PHASE SHIFTER
KILLER PHASE COMPARATOR
BURST GATE DET
1/2
1/4 DIVIDER
0° 90° 180° 270°
X'TAL VCO
REC APC COMPARATOR
PB APC COMPARATOR
BALANCE MODULATOR 2
VCO
TP8002
PHASE ROTATION
1/4RING COUNTER
FREQ DETE
1/3
IC8002
TP8004
0.2V/0.5μsec.div. 0.8Vp-p
IC8005-5
5V/10msec.div. 6Vp-p
TP8004
Q8007
BUFFER
X8001
C8024
APC
REF 50Hz
JPB
3
50Hz DIVIDER
IC8005
C8023
R8041
L8006
+5V
C8012
R8026
AFC
+5V
COLOUR Ⓗ
BP3002
3
Q8001
FRING COLOUR Ⓟ:LOW
TP8002
0.5V/0.5μsec.div. 0.7Vp-p
IC8003-16
2V/1μsec.div. 5Vp-p
TP800
MAIN SIGNAL PA
MAIN SIGNAL PA
5.06MHz PHASE
1 2 4 5 6 7 8 9 11 12 13 14 16 18 19 20 21 22

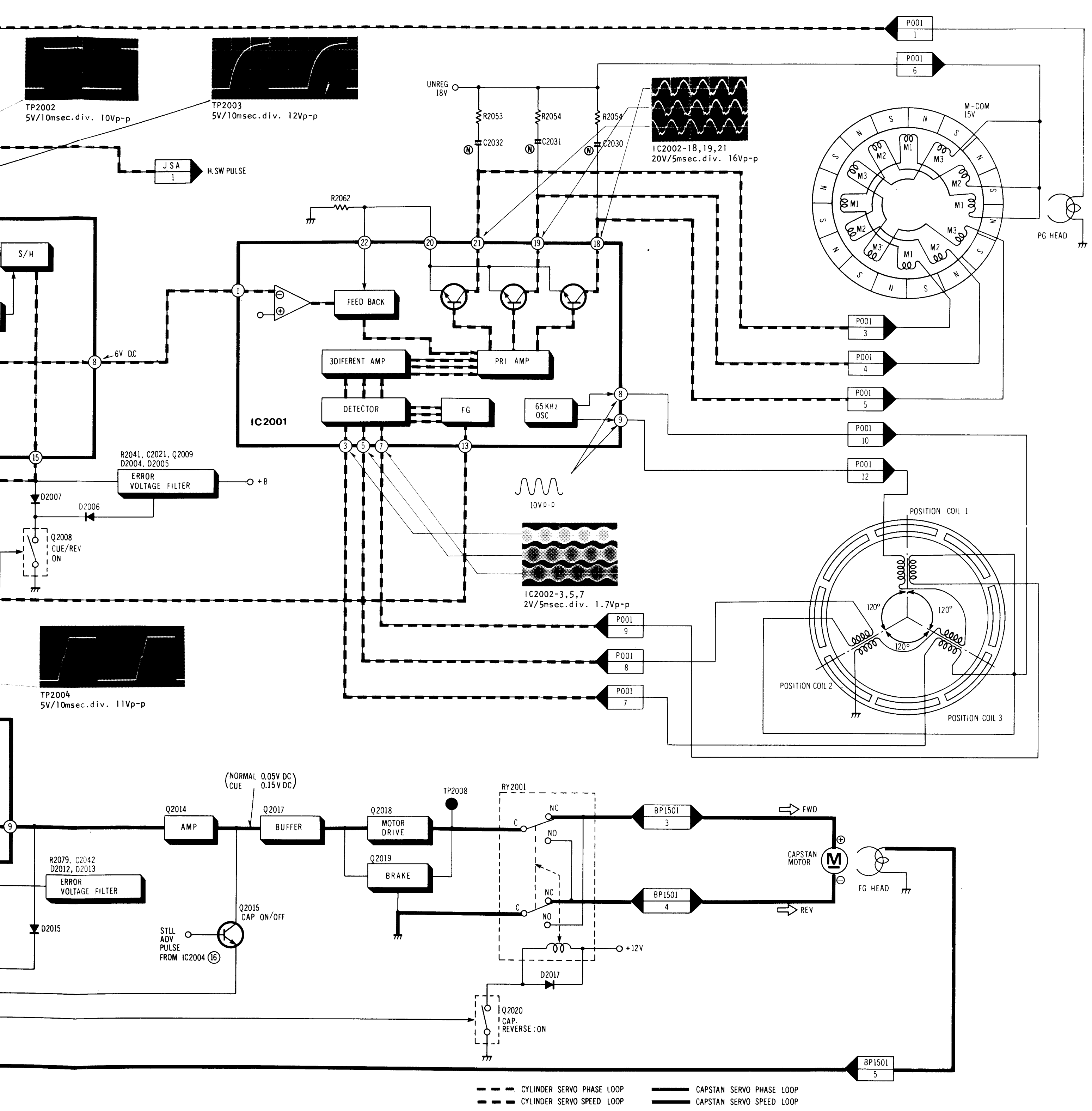

5.6MHz
FL8004
B.P.F
IC8002-18
0.1V/20μsec.div. 1.5Vp-p
UPPER:IC8002-14 REC
0.5V/20μsec.div. 1.3Vp-p
LOWER:IC8002-14 PLAY
0.5V/20μsec.div. 0.8Vp-p
C8014
20
18
REC
PB
BALANCE MODULATOR 1
REC OUT AMP
P.B. OUT AMP
REC
PB
PB
COLOUR KILLER SW
14
KILLER PHASE COMPARATOR
BURST GATE DET
6
90° PHASE SHIFTER
REC APC COMPARATOR
PB APC COMPARATOR
CE
ATOR 2
VCO
11
IC8002
9
8
19
13
12
+5V
C8012
R8026
AFC
+5V
Q8001
FRING COLOUR Ⓟ:LOW
TP8002
TP8002
0.5V/0.5μsec.div. 0.7Vp-p
C8013
L8005
R8027
R8028
FL8003
L.P.F
1MHz
Q8008
BUFFER
C8032
R8032
REC CHROMA CURR
4.43MHz
P.B CHROMA OUT
TO Q3006-EMITTER
627KHz
REC CHROMA OUT
IC8003-14
2V/20μsec.div. 3.5Vp-p
TO Q3006-EMITTER
+5V
1
18
BURST GATE PULSE GENERATOR
V-GATE
2
REC
1/321
PB
1/2
AFC PHASE COMPARATOR
9
1/4 DIVIDER
0°
90°
180°
270°
FREQUENCY DETECTOR
SYNC IN
3.2μsec MMV
4.5μsec MMV
14
FROM IC3002-①
SYNC SIGNAL IN
16
PHASE ROTATION
1/4RING COUNTER
DIGITAL PLL
ERROR DET
BURST ADJUST PULSE GENERATOR
10
IC8003
6
7
12
1H
6Vp-p
BURST ADJUST PULSE
Q8009/Q8010
BURST COMPENSATION PULSE AMP
R8024
TP8001
IC8003-16
2V/1μsec.div. 5Vp-p
IC8003-6
2V/10msec.div. 4.5Vp-p
Q8011
SEARCH-ON
(COLOUR PHASE ROTATION IN SEARCH MODES)
Q3033
JPC 1
HEAD SW PULSE IN
JPC 1
SEARCH Ⓛ
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE.
5.06MHz PHASE ROTATIONAL SIGNAL.

SERVO BLOCK DIAGRAM

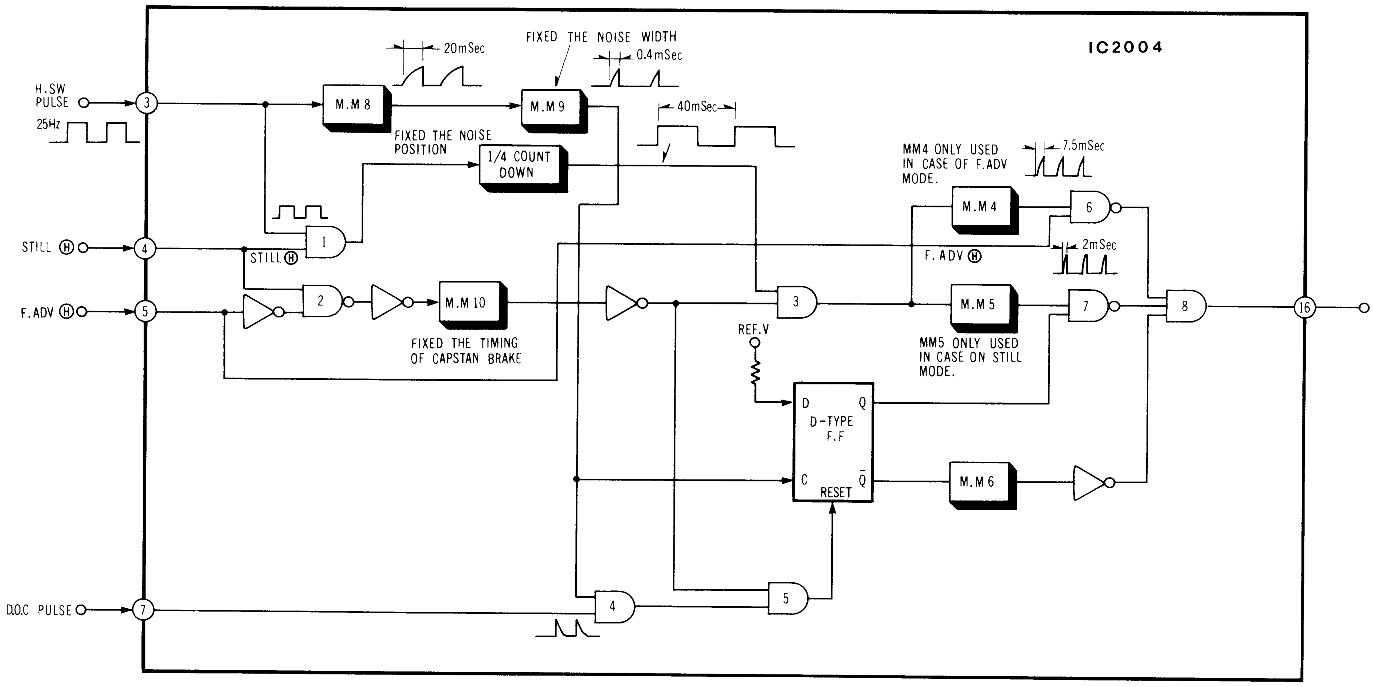

TP2001
2V/10msec.div. 4Vp-p
REF 50Hz (P.B)
JSB 3
VSS (REC)
JSA 4
EXCEPT REC 12V
JSB 1
QR2001
C2002
R2027
D2008
C2020
Q2005 CAP, REV ON
R2030
2009
C2021
Q2006 CAP, REV ON
R2007
BUFF OSC
R2004
PG SHIFT 1
R2005
PG SHIFT 2
C2006
C2007
0.2Vp-p
PG PULSE
12Vp-p
+B
R2006
REC SHIFT
TP2002
TP2003
TP2002
5V/10msec.div. 10Vp-p
TP2003
5V/10msec.div. 12Vp-p
JSA 1
H.SW PULSE
SCHMIDT
PG (1) M.M.
PG (2) M.M.
RS F.F
REC SF
S/H
OSC
1/2
TPZ
DUTY M.M
AMP
1/2
M.M.
TPZ
S/H
SCHMIDT
IC2001
REC
0.7Vp-p
PLAY
1.5Vp-p
REC : ON
6V DC
R2136
Q2027
INVERTER
FROM IC6002 - 13
FF Ⓛ
10Vp-p (REC)
C2018
200Hz 4Vp-p
C2015
C2019
Q2007 REV.ON
R2048
R2049
CYL. FREE RUN
R2039
4Vp-p
R2041, C2021, Q2009
D2004, D2005
ERROR VOLTAGE FILTER
D2007
D2006
Q2008 CUE/REV ON
CTL HEAD
P2001 1
C2049
DELAYED REC 12V
JSC 2
EXCEPT REC 12V
D2001
R2032
R2033
TRACKING FIX
IN THE P.B MODE, THE TIME CONSTANT OF THE MMV IS CONTROLLED BY R2032 & R2033
TRACKING VR
D2003
REC 12V
TP2009
TP2004
TP2004
5V/10msec.div. 11Vp-p
C2047
AMP
P.B
REC
1/12
M.M.
TPZ
S/H
IC2003
FROM IC6001 - 17
CAP REVERSE Ⓗ
SCHMIDT
1/2
1/2
M.M.
TPZ
S/H
C2035
R2070
CAP FREE RUN
TP2011
5V/2msec.div. 4Vp-p
R2079, C2042
D2012, D2013
ERROR VOLTAGE FILTER
D2015
SERCH Ⓛ
JSC 1
FROM IC6001 - 16
CAP ON Ⓗ
600Hz 0.4Vp-p
TP2007
(NORMAL 0.05V DC)
(CUE 0.15V DC)
Q2014
AMP
Q2017
BUFFER
Q2018
MOTOR DRIVE
Q2019
BRAKE
TP2008
Q2015
CAP ON/OFF
STILL ADV PULSE FROM IC2004 ⑯
RY2001
C
NC
NO
+12V
D2017
Q2020
CAP. REVERSE : ON
BP1501 3
BP1501 4
BP1501 5
FWD
REV
CAPSTAN MOTOR
M
FG HEAD
UNREG 18V
R2053
R2054
R2056
C2032
C2031
C2030
IC2002-18, 19, 21
20V/5msec.div. 16Vp-p
R2062
FEED BACK
3DIFERENT AMP
PRI AMP
DETECTOR
FG
65KHz OSC
IC2001
10Vp-p
IC2002-3, 5, 7
2V/5msec.div. 1.7Vp-p
M-COM 15V
M1
M2
M3
N
S
PG HEAD
P001 1
P001 6
P001 3
P001 4
P001 5
P001 10
P001 12
P001 9
P001 8
P001 7
POSITION COIL 1
POSITION COIL 2
POSITION COIL 3
120°
CYLINDER SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP

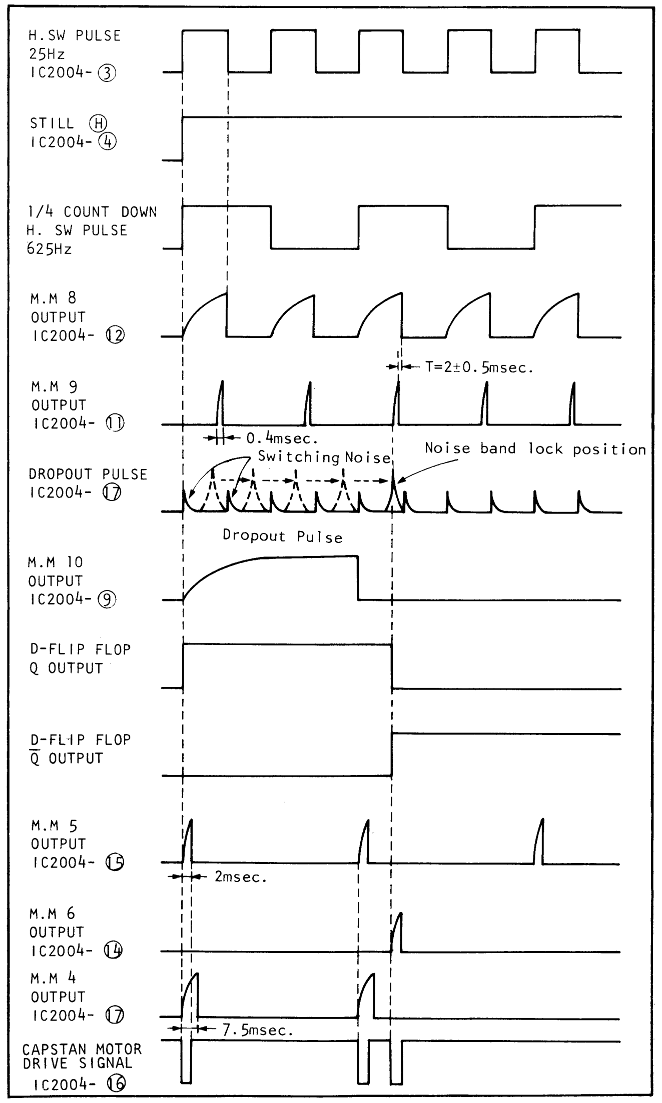
STILL BLO


H.SW PULSE
25Hz
STILL Ⓗ
F.ADV Ⓗ
D.O.C PULSE
ST
H.SW PULSE
25Hz
IC2004-③
STILL Ⓗ
IC2004-④
1/4 COUNT DOWN
H. SW PULSE
625Hz
M.M 8
OUTPUT
IC2004-⑫
M.M 9
OUTPUT
IC2004-⑪
DROPOUT PULSE
IC2004-⑰
M.M 10
OUTPUT
IC2004-⑨
D-FLIP FLOP
Q OUTPUT
D-FLIP FLOP
Q̄ OUTPUT
M.M 5
OUTPUT
IC2004-⑮
M.M 6
OUTPUT
IC2004-⑭
M.M 4
OUTPUT
IC2004-⑰
CAPSTAN MOTOR
DRIVE SIGNAL
IC2004-⑯
STILL

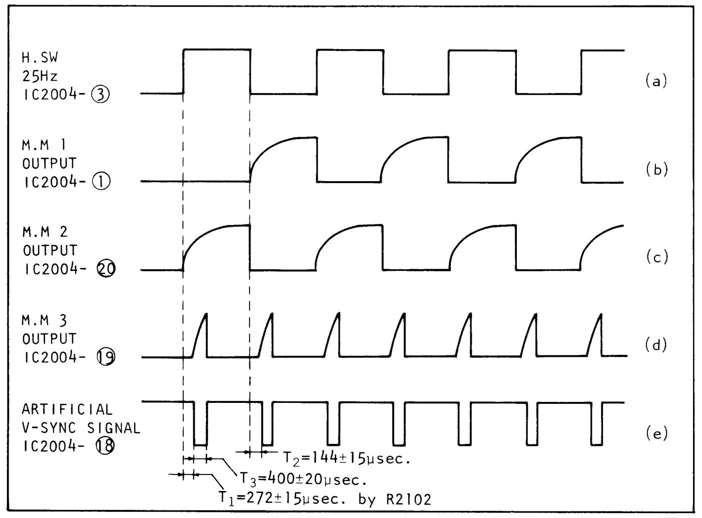

P001 1
P001 6
TP2002 5V/10msec.div. 10Vp-p
TP2003 5V/10msec.div. 12Vp-p
JSA 1
H.SW PULSE
UNREG 18V
R2053
R2054
R2054
C2032
C2031
C2030
IC2002-18,19,21 20V/5msec.div. 16Vp-p
M-COM 15V
PG HEAD
R2062
S/H
FEED BACK
3DIFERENT AMP
PRI AMP
DETECTOR
FG
65KHz OSC
IC2001
6V DC
P001 3
P001 4
P001 5
P001 10
P001 12
R2041, C2021, Q2009 D2004, D2005
ERROR VOLTAGE FILTER
+B
D2007
D2006
Q2008 CUE/REV ON
10Vp-p
IC2002-3,5,7 2V/5msec.div. 1.7Vp-p
POSITION COIL 1
POSITION COIL 2
POSITION COIL 3
120°
P001 9
P001 8
P001 7
TP2004 5V/10msec.div. 11Vp-p
(NORMAL 0.05V DC / CUE 0.15V DC)
Q2014 AMP
Q2017 BUFFER
Q2018 MOTOR DRIVE
Q2019 BRAKE
TP2008
RY2001
NC
NO
C
BP1501 3
BP1501 4
BP1501 5
FWD
REV
CAPSTAN MOTOR
M
FG HEAD
R2079, C2042 D2012, D2013
ERROR VOLTAGE FILTER
D2015
Q2015 CAP ON/OFF
STLL ADV PULSE FROM IC2004 ⑯
D2017
+12V
Q2020 CAP. REVERSE:ON
CYLINDER SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP

STILL BLOCK DIAGRAM


IC2004
H.SW PULSE ③
25Hz
STILL Ⓗ ④
F.ADV Ⓗ ⑤
D.O.C PULSE ⑦
20mSec
FIXED THE NOISE WIDTH
0.4mSec
M.M 8
M.M 9
FIXED THE NOISE POSITION
1/4 COUNT DOWN
40mSec
STILL Ⓗ
M.M 10
FIXED THE TIMING OF CAPSTAN BRAKE
MM4 ONLY USED IN CASE OF F.ADV MODE.
7.5mSec
M.M 4
F.ADV Ⓗ
2mSec
M.M 5
MM5 ONLY USED IN CASE ON STILL MODE.
REF.V
D-TYPE F.F
D Q C Q̄ RESET
M.M 6
⑯ TO CAPSTAN MOTOR DRIVE

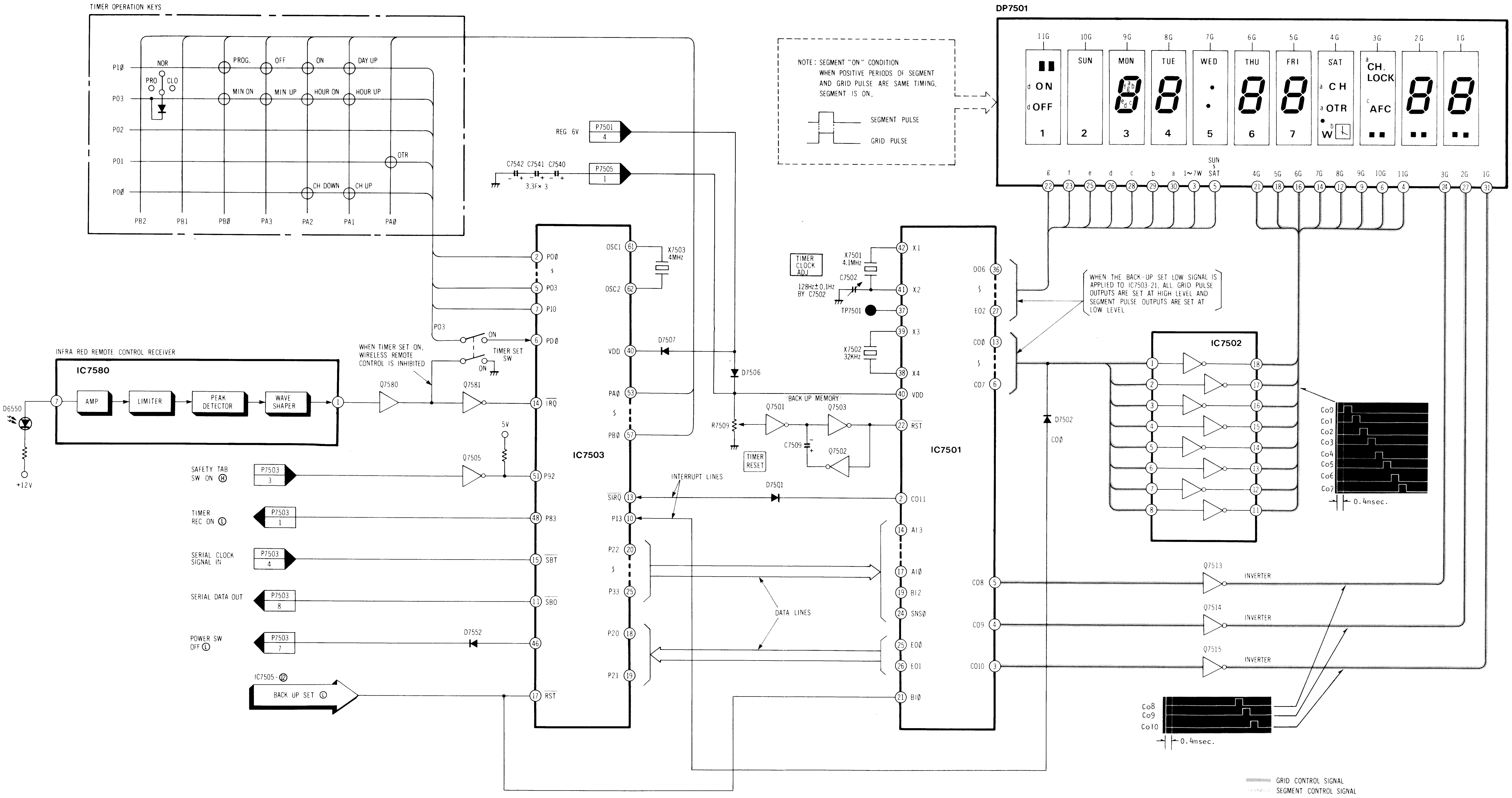


STILL CIRCUIT TIMING CHART



PHASE RELATION OF THE ARTIFICIAL V-SYNC SIGNAL

PROGRAMMABLE TIMER BLOCK DIAGRAM


TIMER OPERATION KEYS
P10
P03
P02
P01
P00
NOR
PRO
CLO
PROG.
OFF
ON
DAY UP
MIN ON
MIN UP
HOUR ON
HOUR UP
OTR
CH DOWN
CH UP
PB2
PB1
PB0
PA3
PA2
PA1
PA0
REG 6V
P7501 4
C7542 C7541 C7540
3.3F× 3
P7505 1
DP7501
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
ON
OFF
SUN
MON
TUE
WED
THU
FRI
SAT
CH.
LOCK
CH
OTR
AFC
W
1
2
3
4
5
6
7
g
f
e
d
c
b
a
1~7W
SUN ~ SAT
INFRA RED REMOTE CONTROL RECEIVER
IC7580
AMP
LIMITER
PEAK DETECTOR
WAVE SHAPER
D6550
+12V
Q7580
Q7581
Q7505
5V
P03
ON
TIMER SET SW
SAFETY TAB SW ON Ⓗ
P7503 3
TIMER REC ON Ⓛ
P7503 1
SERIAL CLOCK SIGNAL IN
P7503 4
SERIAL DATA OUT
P7503 8
POWER SW OFF Ⓛ
P7503 7
D7552
IC7505-⑫
BACK UP SET Ⓛ
IC7503
P00
P03
P10
PD0
IRQ
P92
P83
SBT
SB0
RST
OSC1
OSC2
X7503 4MHz
VDD
D7507
D7506
PA0
PB0
SIRQ
P13
P22
P33
P20
P21
INTERRUPT LINES
DATA LINES
D7501
R7509
TIMER RESET
BACK UP MEMORY
Q7501
Q7503
Q7502
C7509
TIMER CLOCK ADJ
X7501 4.1MHz
C7502
128Hz±0.1Hz BY C7502
TP7501
X7502 32KHz
IC7501
X1
X2
X3
X4
VDD
RST
CO11
A13
A10
B12
SNS0
E00
E01
B10
D06
E02
CO0
CO7
CO8
CO9
CO10
D7502
CO0
IC7502
Q7513
Q7514
Q7515
INVERTER
Co0
Co1
Co2
Co3
Co4
Co5
Co6
Co7
0.4msec.
Co8
Co9
Co10
0.4msec.
GRID CONTROL SIGNAL
SEGMENT CONTROL SIGNAL

WHEN TIMER SET ON, WIRELESS REMOTE CONTROL IS INHIBITED

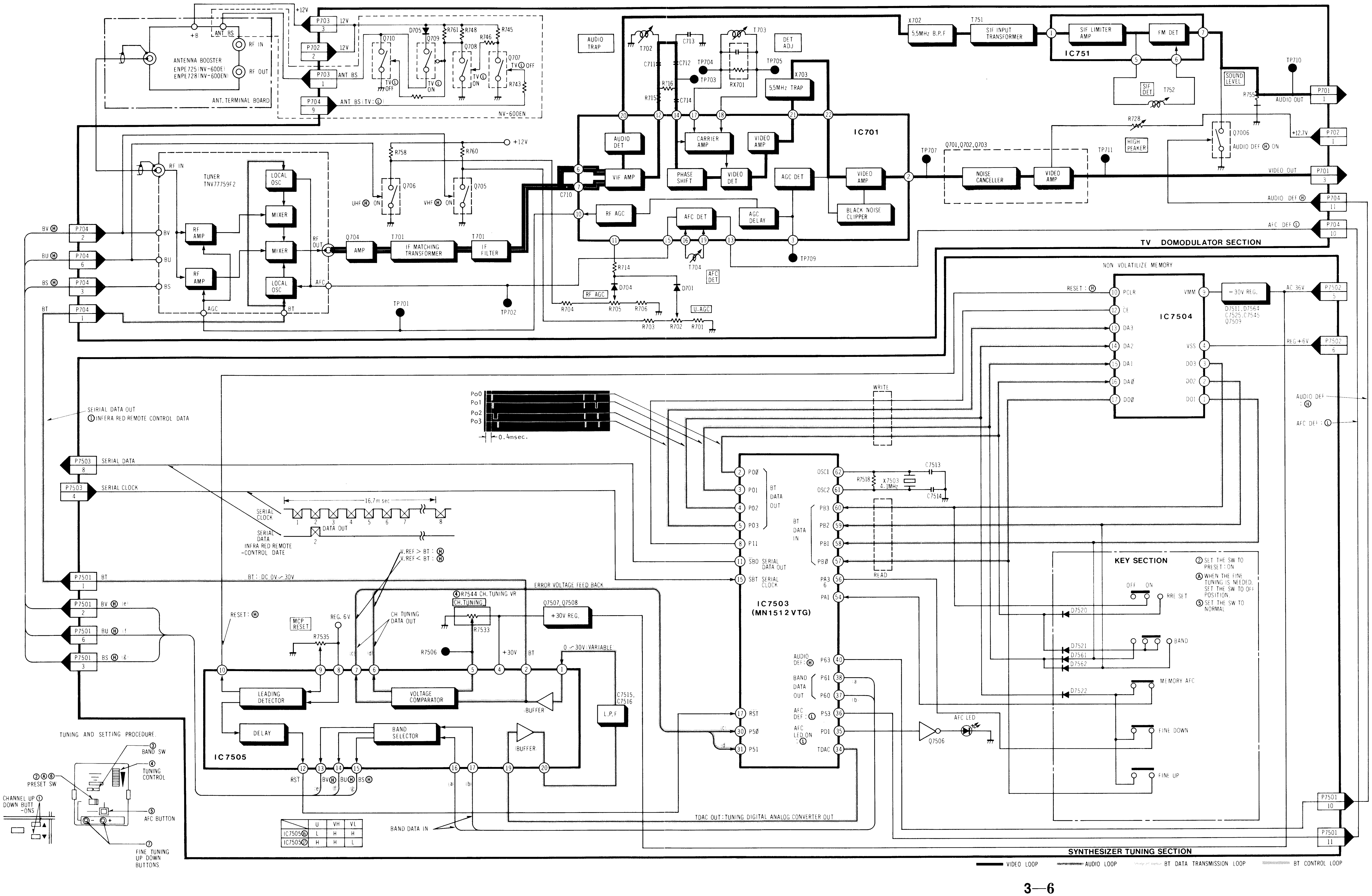
NOTE: SEGMENT "ON" CONDITION
WHEN POSITIVE PERIODS OF SEGMENT AND GRID PULSE ARE SAME TIMING, SEGMENT IS ON.

SEGMENT PULSE

GRID PULSE

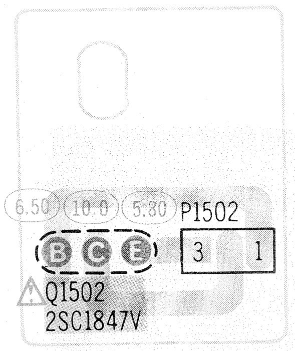
WHEN THE BACK-UP SET LOW SIGNAL IS APPLIED TO IC7503-21, ALL GRID PULSE OUTPUTS ARE SET AT HIGH LEVEL AND SEGMENT PULSE OUTPUTS ARE SET AT LOW LEVEL

TV DEMODULATOR & SYNTHESIZER TUNER BLOCK DIAGRAM


ANTENNA BOOSTER
ENPE725 (NV-600E)
ENPE728 (NV-600EN)
RF IN
RF OUT
ANT. TERMINAL BOARD
ANT BS
+B
+12V
P703 3 12V
P702 2 12V
P703 1 ANT BS
P704 9 ANT BS : TV : Ⓛ
NV-600EN
Q710
Q709
Q708
Q707
TV Ⓛ OFF
TV Ⓛ ON
R761 R748 R746 R745 R743
TUNER TNV77759F2
LOCAL OSC
MIXER
RF AMP
AGC
BT
AFC
RF OUT
Q704 AMP
T701 IF MATCHING TRANSFORMER
T701 IF FILTER
R758
R760
Q706
Q705
UHF Ⓗ ON
VHF Ⓗ ON
+12V
TP701
TP702
AUDIO TRAP
DET ADJ
T702
T703
C713
C711
C712
TP704
TP703
TP705
RX701
X703 5.5MHz TRAP
R716
R715
C714
AUDIO DET
CARRIER AMP
VIDEO AMP
VIF AMP
PHASE SHIFT
VIDEO DET
AGC DET
RF AGC
AFC DET
AGC DELAY
BLACK NOISE CLIPPER
IC701
C710
R714
D704
D701
T704
AFC DET
RF AGC
U.AGC
R704 R705 R706 R703 R702 R701
TP709
TP707
Q701, Q702, Q703
NOISE CANCELLER
VIDEO AMP
TP711
HIGH PEAKER
R728
X702 5.5MHz B.P.F
T751 SIF INPUT TRANSFORMER
SIF LIMITER AMP
FM DET
IC751
SIF DET
T752
SOUND LEVEL
R755
TP710
AUDIO OUT
P701 1
+12.7V
P702 1
Q7006
AUDIO DEF Ⓗ ON
VIDEO OUT
P701 3
AUDIO DEF Ⓗ
P704 11
AFC DEF Ⓛ
P704 10
TV DOMODULATOR SECTION
BV Ⓗ P704 2
BU Ⓗ P704 6
BS Ⓗ P704 3
BT P704 1
NON VOLATILIZE MEMORY
RESET : Ⓗ
PCLR
CE
DA3
DA2
DA1
DAØ
DOØ
VMM
VSS
DO3
DO2
DO1
IC7504
−30V REG.
D7511, D7564, C7525, C7545, Q7509
AC 36V P7502 5
REG +6V P7502 6
WRITE
READ
Po0
Po1
Po2
Po3
0.4msec.
SERIAL DATA OUT
Ⓛ INFERA RED REMOTE CONTROL DATA
P7503 8 SERIAL DATA
P7503 4 SERIAL CLOCK
16.7m sec
SERIAL CLOCK
SERIAL DATA
INFRA RED REMOTE-CONTROL DATE
DATA OUT
1 2 3 4 5 6 7 8
V.REF > BT : Ⓗ
V.REF < BT : Ⓗ
P7501 1 BT
BT : DC 0V〜30V
ERROR VOLTAGE FEED BACK
P7501 2 BV Ⓗ (e)
P7501 6 BU Ⓗ (f)
P7501 3 BS Ⓗ (g)
RESET : Ⓗ
MCP RESET
REG. 6V
R7535
CH TUNING DATA OUT
④ R7544 CH. TUNING VR
CH. TUNING
R7533
R7506
Q7507, Q7508 +30V REG.
+30V
BT
0〜30V VARIABLE
C7515, C7516
L.P.F
LEADING DETECTOR
VOLTAGE COMPARATOR
BUFFER
DELAY
BAND SELECTOR
IC7505
RST
BV Ⓗ
BU Ⓗ
BS Ⓗ
TDAC OUT : TUNING DIGITAL ANALOG CONVERTER OUT
BAND DATA IN
PO0
PO1
PO2
PO3
P11
SBO SERIAL DATA OUT
SBT SERIAL CLOCK
BT DATA OUT
BT DATA IN
IC7503 (MN1512VTG)
OSC1
OSC2
R7518
X7503 4.1MHz
C7513
C7514
PB3
PB2
PB1
PBØ
PA3
PA1
AUDIO DEF : Ⓗ P63
BAND DATA OUT P61 P60
AFC DEF : Ⓛ P53
AFC LED ON : Ⓛ PD1
RST
P50
P51
TDAC
AFC LED
Q7506
KEY SECTION
OFF ON
PRE SET
BAND
MEMORY AFC
FINE DOWN
FINE UP
D7520
D7521
D7561
D7562
D7522
② SET THE SW TO PRESET : ON
④ WHEN THE FINE TUNING IS NEEDED, SET THE SW TO OFF POSITION.
⑤ SET THE SW TO NORMAL
AUDIO DEF : Ⓗ
AFC DEF : Ⓛ
P7501 10
P7501 11
SYNTHESIZER TUNING SECTION
TUNING AND SETTING PROCEDURE.
③ BAND SW
④ TUNING CONTROL
②④⑥ PRESET SW
CHANNEL UP ① DOWN BUTT-ONS
⑤ AFC BUTTON
⑦ FINE TUNING UP DOWN BUTTONS
VIDEO LOOP
AUDIO LOOP
BT DATA TRANSMISSION LOOP
BT CONTROL LOOP

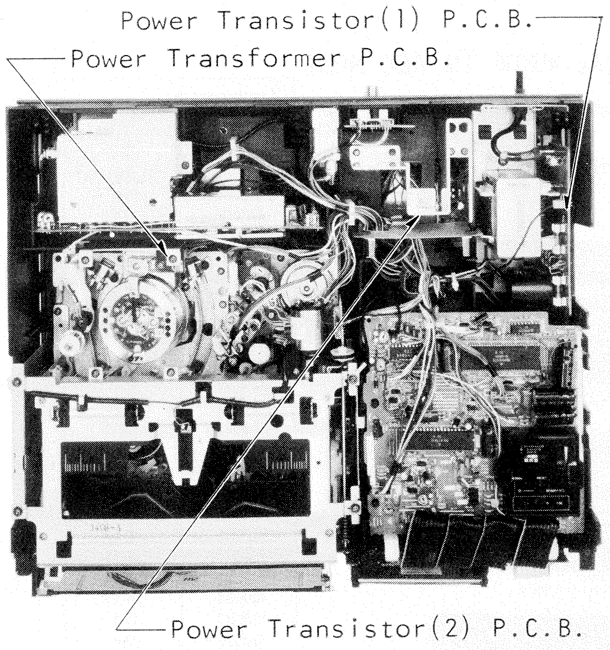
	U	VH	VL
IC7505⑯	L	H	H
IC7505⑰	H	H	L

POWER TRANSISTOR (1) P.C.B. (VJB00A11)

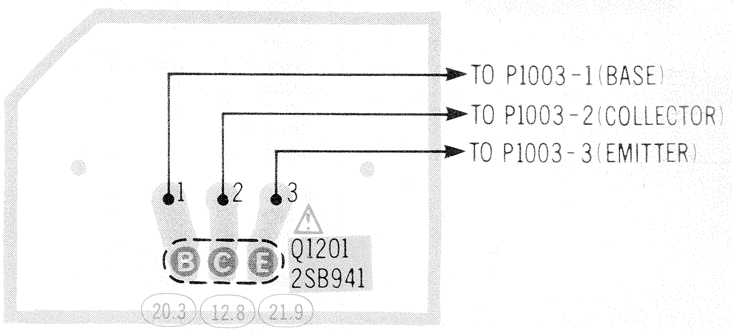

6.50
10.0
5.80
P1502
B C E
3 1
Q1502
2SC1847V

P1502

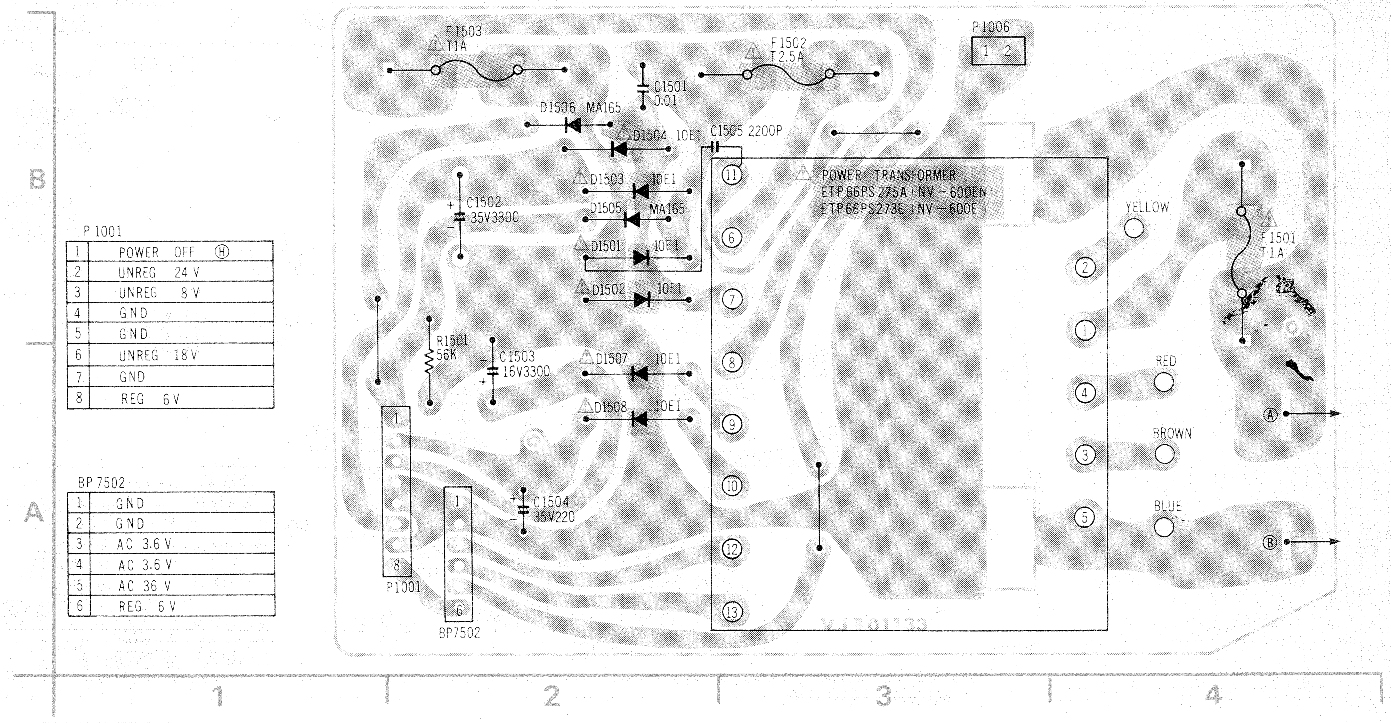
1	BASE	BP1502-1
2	COLLECTOR	BP1502-2
3	EMITTER	BP1502-3


Power Transistor(1) P.C.B.
Power Transformer P.C.B.
Power Transistor(2) P.C.B.

POWER TRANSISTOR (2) P.C.B. (VJB00A62)


TO P1003-1(BASE)
TO P1003-2(COLLECTOR)
TO P1003-3(EMITTER)
1
2
3
B C E
Q1201
2SB941
20.3
12.8
21.9

POWER TRANSFORMER P.C.B. (VJB01133)


F1503
T1A
F1502
T2.5A
P1006
1 2
C1501
0.01
D1506 MA165
D1504 10E1
C1505 2200P
D1503 10E1
D1505 MA165
D1501 10E1
D1502 10E1
C1502
35V3300
POWER TRANSFORMER
ETP66PS275A (NV-600EN)
ETP66PS273E (NV-600E)
YELLOW
F1501
T1A
RED
BROWN
BLUE
R1501
56K
C1503
16V3300
D1507 10E1
D1508 10E1
C1504
35V220
P1001
BP7502
VJB01133
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
1
2
3
4

P 1001

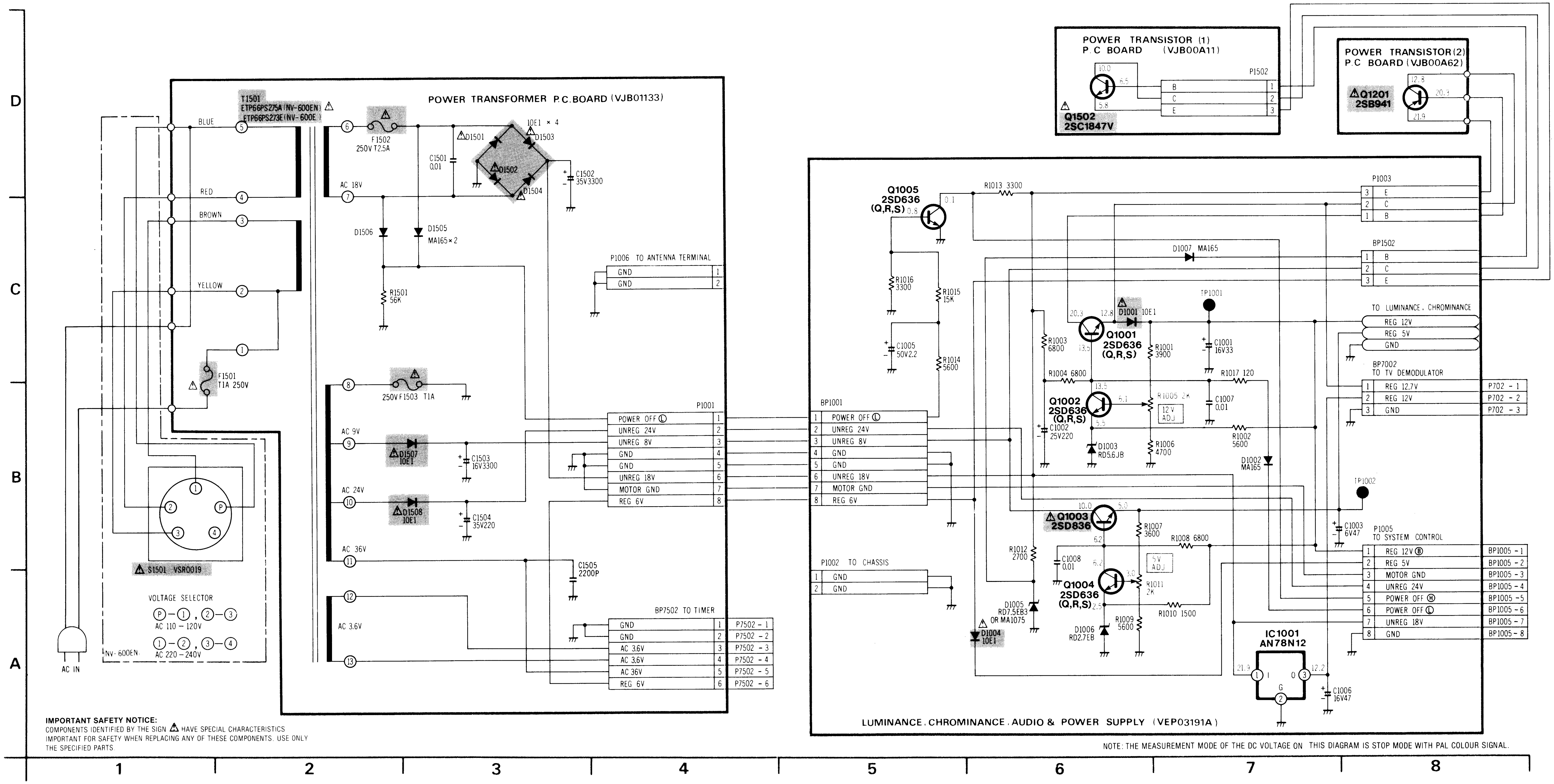
1	POWER OFF	Ⓗ
2	UNREG 24 V	
3	UNREG 8 V	
4	GND	
5	GND	
6	UNREG 18 V	
7	GND	
8	REG 6 V	

BP 7502

1	GND
2	GND
3	AC 3.6 V
4	AC 3.6 V
5	AC 36 V
6	REG 6 V

POWER TRANSFORMER & POWER SUPPLY SCHEMATIC DIAGRAM

Power Supply Circuit	
Q1001	C-6
Q1002	B-6
Q1003	B-6
Q1004	A-6
Q1005	C-5
IC1001	A-7

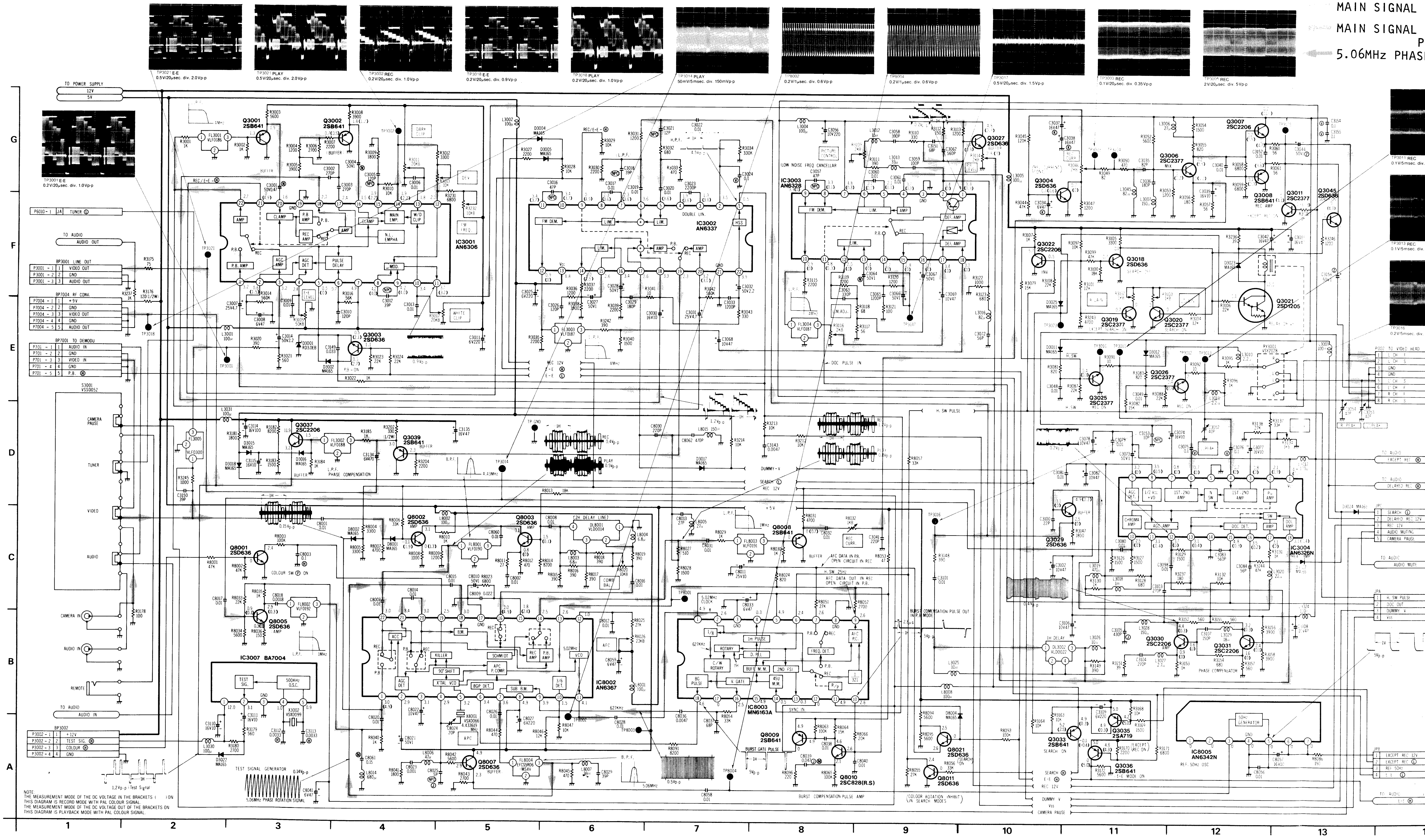


POWER TRANSFORMER P.C.BOARD (VJB01133)
T1501 ETP66PS275A (NV-600EN) ETP66PS273E (NV-600E)
BLUE
RED
BROWN
YELLOW
F1501 T1A 250V
F1502 250V T2.5A
F1503 250V T1A
C1501 0.01
D1501
D1502
D1503
D1504
10E1 × 4
C1502 35V3300
D1505 MA165×2
D1506
R1501 56K
AC 18V
AC 9V
AC 24V
AC 36V
AC 3.6V
D1507 10E1
D1508 10E1
C1503 16V3300
C1504 35V220
C1505 2200P
P1006 TO ANTENNA TERMINAL
P1001
POWER OFF Ⓛ
UNREG 24V
UNREG 8V
GND
UNREG 18V
MOTOR GND
REG 6V
BP7502 TO TIMER
P7502 - 1
P7502 - 2
P7502 - 3
P7502 - 4
P7502 - 5
P7502 - 6
S1501 VSR0019
VOLTAGE SELECTOR
Ⓟ-①, ②-③ AC 110 - 120V
①-②, ③-④ AC 220 - 240V
NV-600EN
AC IN
POWER TRANSISTOR (1) P.C BOARD (VJB00A11)
Q1502 2SC1847V
P1502
POWER TRANSISTOR (2) P.C BOARD (VJB00A62)
Q1201 2SB941
LUMINANCE . CHROMINANCE . AUDIO & POWER SUPPLY (VEP03191A)
Q1005 2SD636 (Q,R,S)
R1013 3300
R1016 3300
R1015 15K
C1005 50V2.2
R1014 5600
P1003
BP1502
D1007 MA165
TP1001
Q1001 2SD636 (Q,R,S)
D1001 10E1
R1003 6800
R1001 3900
C1001 16V33
R1004 6800
R1017 120
Q1002 2SD636 (Q,R,S)
R1005 2K 12V ADJ
C1007 0.01
C1002 25V220
D1003 RD5.6JB
R1006 4700
R1002 5600
D1002 MA165
TO LUMINANCE . CHROMINANCE
REG 12V
REG 5V
BP7002 TO TV DEMODULATOR
REG 12.7V
P702 - 1
P702 - 2
P702 - 3
BP1001
TP1002
Q1003 2SD836
R1007 3600
R1008 6800
C1003 6V47
P1005 TO SYSTEM CONTROL
REG 12V Ⓡ
POWER OFF Ⓡ
UNREG 18V
BP1005 - 1
BP1005 - 2
BP1005 - 3
BP1005 - 4
BP1005 - 5
BP1005 - 6
BP1005 - 7
BP1005 - 8
R1012 2700
C1008 0.01
Q1004 2SD636 (Q,R,S)
R1011 2K 5V ADJ
R1010 1500
R1009 5600
D1005 RD7.5EB3 OR MA1075
D1006 RD2.7EB
D1004 10E1
P1002 TO CHASSIS
IC1001 AN78N12
C1006 16V47
A
B
C
D
1
2
3
4
5
6
7
8

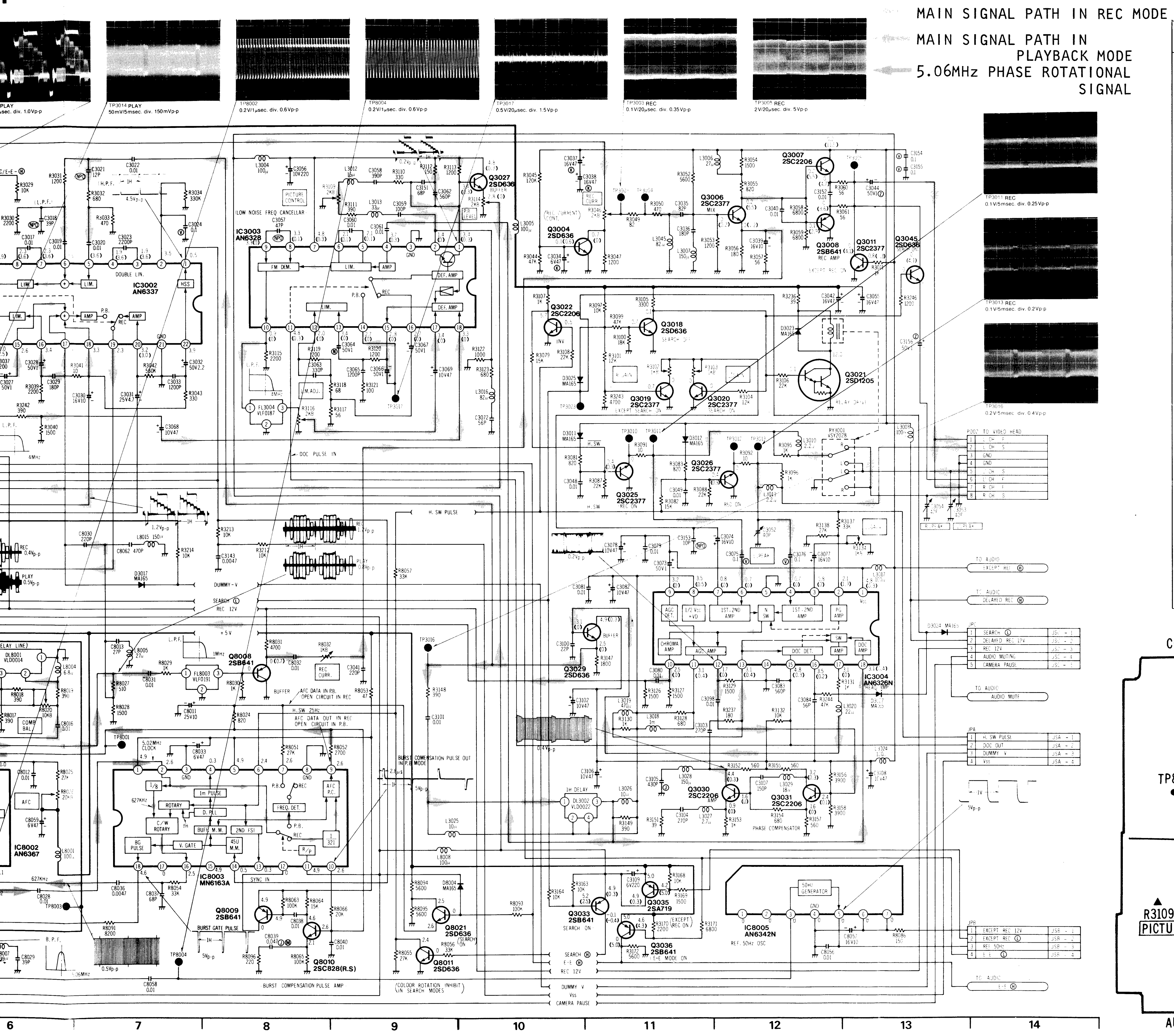
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

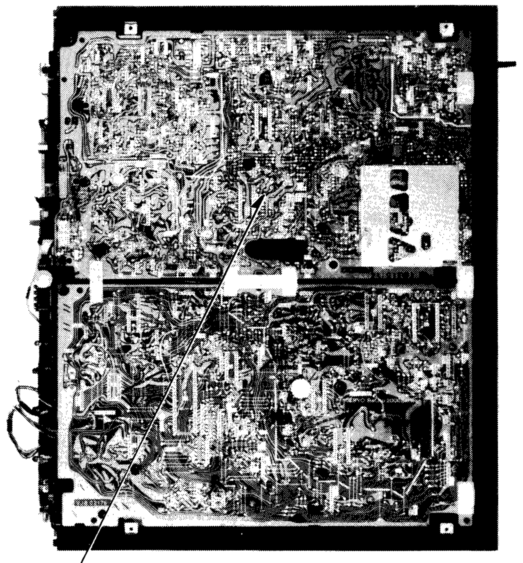
LUMINANCE, CHROMINANCE SCHEMATIC DIAGRAM


MAIN SIGNAL
MAIN SIGNAL
P
5.06MHz PHAS
TP3021 E-E 0.5V/20μsec. div. 2.0Vp-p
TP3021 PLAY 0.5V/20μsec. div. 2.0Vp-p
TP3002 REC 0.2V/20μsec. div. 1.0Vp-p
TP3018 E-E 0.2V/20μsec. div. 0.9Vp-p
TP3018 PLAY 0.2V/20μsec. div. 1.0Vp-p
TP3014 PLAY 50mV/5msec. div. 150mVp-p
TP8002 0.2V/1μsec. div. 0.6Vp-p
TP8004 0.2V/1μsec. div. 0.6Vp-p
TP3017 0.5V/20μsec. div. 1.5Vp-p
TP3003 REC 0.1V/20μsec. div. 0.35Vp-p
TP3005 REC 2V/20μsec. div. 5Vp-p
TP3001 E-E 0.2V/20μsec. div. 1.0Vp-p
TP3011 REC 0.1V/5msec. div.
TP3013 PLAY 0.1V/5msec. div.
TP3016 0.2V/5msec. div.
TO POWER SUPPLY
12V
5V
P6010-1 JA TUNER
TO AUDIO
AUDIO OUT
BP3001 LINE OUT
VIDEO OUT
GND
AUDIO OUT
BP7004 RF CONV.
+9V
VIDEO OUT
AUDIO OUT
BP7001 TO DEMODU
AUDIO IN
VIDEO IN
P.B.
S3001 VSS0052
CAMERA PAUSE
TUNER
VIDEO
AUDIO
CAMERA IN
AUDIO IN
REMOTE
TO AUDIO
AUDIO IN
BP3002
+12V
TEST SIG.
COLOUR
GND
Q3001 2SB641
Q3002 2SB641
IC3001 AN6306
Q3003 2SD636
Q3037 2SC2206
Q3039 2SB641
IC3002 AN6337
IC3003 AN6328
Q3027 2SD636
Q3004 2SD636
Q3006 2SC2377
Q3007 2SC2206
Q3008 2SB641
Q3011 2SC2377
Q3045 2SD636
Q3022 2SC2206
Q3018 2SD636
Q3019 2SC2377
Q3020 2SC2377
Q3021 2SD1205
Q3025 2SC2377
Q3026 2SC2377
Q3029 2SD636
IC3004 AN6326N
Q3030 2SC2206
Q3031 2SC2206
Q3033 2SB641
Q3035 2SA719
Q3036 2SB641
IC8005 AN6342N
Q8001 2SD636
Q8005 2SD636
IC3007 BA7004
Q8002 2SD636
Q8003 2SD636
IC8002 AN6367
Q8007 2SD636
Q8008 2SB641
IC8003 MN6163A
Q8009 2SB641
Q8010 2SC828(R.S)
Q8011 2SD636
Q8021 2SD636
DL8001 VLD0014
DL3002 VLD0022
FM DEM.
LIM.
DOUBLE LIN.
HSS
AMP
CLAMP
MAIN EMP.
W/D CLIP
N.L. EMPHA
P.B. AMP
AGC AMP
AGC DET
PULSE DELAY
LOW NOISE FREQ CANCELLER
DEF. AMP
ACC
KILLER
90° SHIFT
XTAL VCO
APC P. COMP.
BGP DET
SUB B.M.
SCHMIDT
VCO
AFC
ROTARY
1/8
1H PULSE
FREQ. DET.
C/W ROTARY
BUFF. M.M.
2ND FSI
BG PULSE
V. GATE
45U M.M.
SYNC IN
BURST GATE PULSE
BURST COMPENSATION PULSE AMP
BURST COMPENSATION PULSE OUT
PHASE COMPENSATOR
COMB BAL
1H DELAY LINE
L.P.F. PHASE COMPENSATION
TEST SIGNAL GENERATOR
5.06MHz PHASE ROTATION SIGNAL
TEST SIG.
500KHz O.S.C.
1.2Vp-p Test Signal
H. SW PULSE
DUMMY-V
SEARCH
REC 12V
E-E
CHROMA AMP
AGC AMP
DOC DET
1ST-2ND AMP
50Hz GENERATOR
P002 TO VIDEO HEAD
TO AUDIO EXCEPT REC 12V
TO AUDIO DELAYED REC 12V
TO AUDIO AUDIO MUTE
SEARCH
DELAYED REC 12V
REC 12V
AUDIO MUTING
CAMERA PAUSE
H.SW PULSE
DOC OUT
DUMMY V
EXCEPT REC 12V
EXCEPT REC 12V
REF. 50Hz
TO AUDIO E-E
(COLOUR ROTATION INHIBIT IN SEARCH MODE)
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G

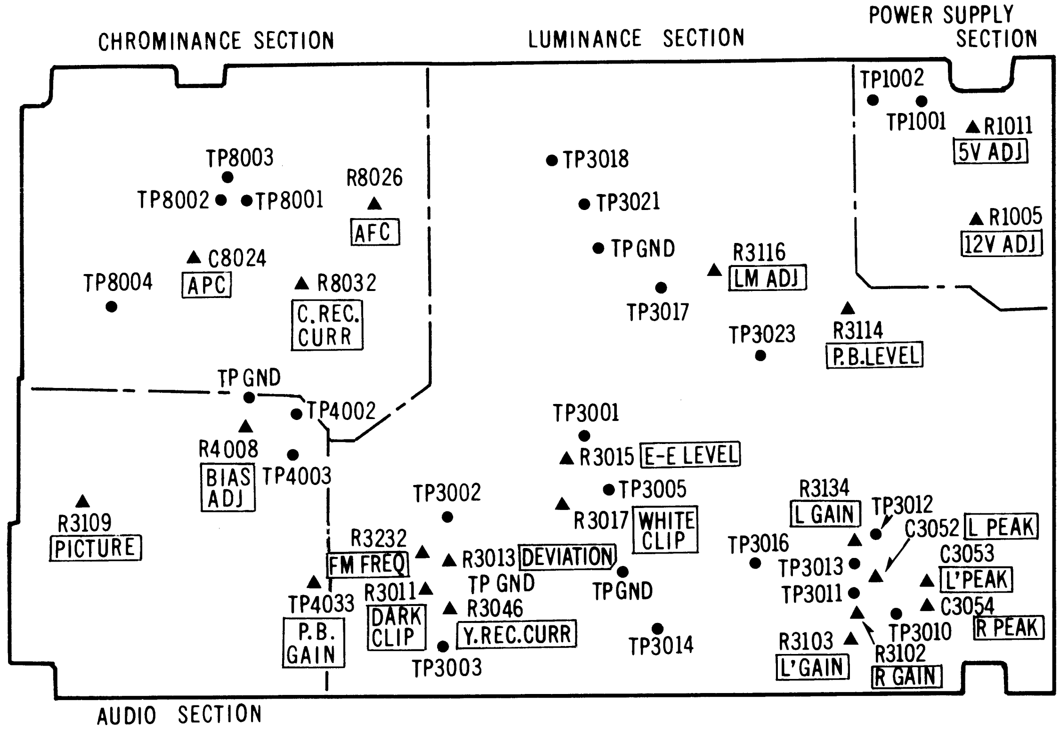
NOTE:
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL
PLAY
TP3014 PLAY 50mV/5msec. div. 150mVp-p
TP8002 0.2V/1μsec. div. 0.6Vp-p
TP8004 0.2V/1μsec. div. 0.6Vp-p
TP3017 0.5V/20μsec. div. 1.5Vp-p
TP3003 REC 0.1V/20μsec. div. 0.35Vp-p
TP3005 REC 2V/20μsec. div. 5Vp-p
TP3011 REC 0.1V/5msec. div. 0.25Vp-p
TP3013 REC 0.1V/5msec. div. 0.2Vp-p
TP3016 0.2V/5msec. div. 0.4Vp-p
IC3002 AN6337
IC3003 AN6328
LOW NOISE FREQ CANCELLAR
PICTURE CONTROL
FM DEM.
LIM.
AMP
DEF. AMP
DOUBLE LIM.
HSS
Q3027 2SD636
Q3004 2SD636
Q3006 2SC2377 MIX
Q3007 2SC2206
Q3008 2SB641 REC AMP
Q3011 2SC2377
Q3045 2SD636
Q3022 2SC2206 INV
Q3018 2SD636
Q3019 2SC2377
Q3020 2SC2377
Q3021 2SD1205
Q3025 2SC2377
Q3026 2SC2377
Q3029 2SD636 BUFFER
IC3004 AN6326N
AGC DET.
1/2 VCC +VD
1ST, 2ND AMP
N SW
1ST, 2ND AMP
PB AMP
CHROMA AMP
AGC AMP
DOC DET.
DOC AMP
Q3030 2SC2206
Q3031 2SC2206
PHASE COMPENSATOR
DL3002 VLD0022
1H DELAY
Q3033 2SB641 SEARCH ON
Q3035 2SA719
Q3036 2SB641 E-E MODE ON
IC8005 AN6342N REF. 50Hz OSC
50Hz GENERATOR
Q8008 2SB641
IC8002 AN6367
IC8003 MN6163A
Q8009 2SB641
Q8010 2SC828(R.S)
Q8011 2SD636
Q8021 2SD636
DL8001 VLD0014
FL8003 VLF0191
FL3004 VLF0187
COMB BAL
AFC
REC CURR.
5.02MHz CLOCK
627KHz
ROTARY
C/W ROTARY
BG PULSE
V. GATE
1m PULSE
D. PLL
BUFF M.M.
2ND FSI
45U M.M.
FREQ. DET.
AFC P.C.
BURST GATE PULSE
BURST COMPENSATION PULSE AMP
BURST COMPENSATION PULSE OUT IN P.B MODE
AFC DATA IN P.B. OPEN CIRCUIT IN REC
AFC DATA OUT IN REC OPEN CIRCUIT IN P.B.
H. SW 25Hz
H. SW PULSE
DOC PULSE IN
SEARCH
REC 12V
DUMMY-V
(COLOUR ROTATION INHIBIT IN SEARCH MODE)
P002 TO VIDEO HEAD
TO AUDIO EXCEPT REC
TO AUDIO DELAYED REC
TO AUDIO AUDIO MUTE
TO AUDIO E-E
SEARCH
DELAYED REC 12V
REC 12V
AUDIO MUTING
CAMERA PAUSE
H. SW PULSE
DOC OUT
DUMMY V
Vss
EXCEPT REC 12V
EXCEPT REC
REC 50Hz
E-E
DUMMY V
Vss
CAMERA PAUSE
6
7
8
9
10
11
12
13
14

Luminance & Chrominance Schematic	
Q3001	G-3
Q3002	G-4
Q3003	E-4
Q3004	G-10
Q3006	G-12
Q3007	G-12
Q3008	G-12
Q3011	F-13
Q3018	F-11
Q3019	E-11
Q3020	E-11
Q3021	E-12
Q3022	F-10
Q3025	E-11
Q3026	E-12
Q3027	G-10
Q3029	D-11
Q3030	B-12
Q3031	B-12
Q3033	A-11
Q3035	A-11
Q3036	A-11
Q3037	D-3
Q3039	D-4
Q3045	F-13
Q8001	C-3
Q8002	C-4
Q8003	C-5
Q8005	B-3
Q8007	A-5
Q8008	C-8
Q8009	A-8
Q8010	A-8
Q8011	A-9
Q8021	A-9
IC3001	F-4
IC3002	F-7
IC3003	F-9
IC3004	C-12
IC3007	B-3
IC8002	B-5
IC8003	B-8
IC8005	A-12

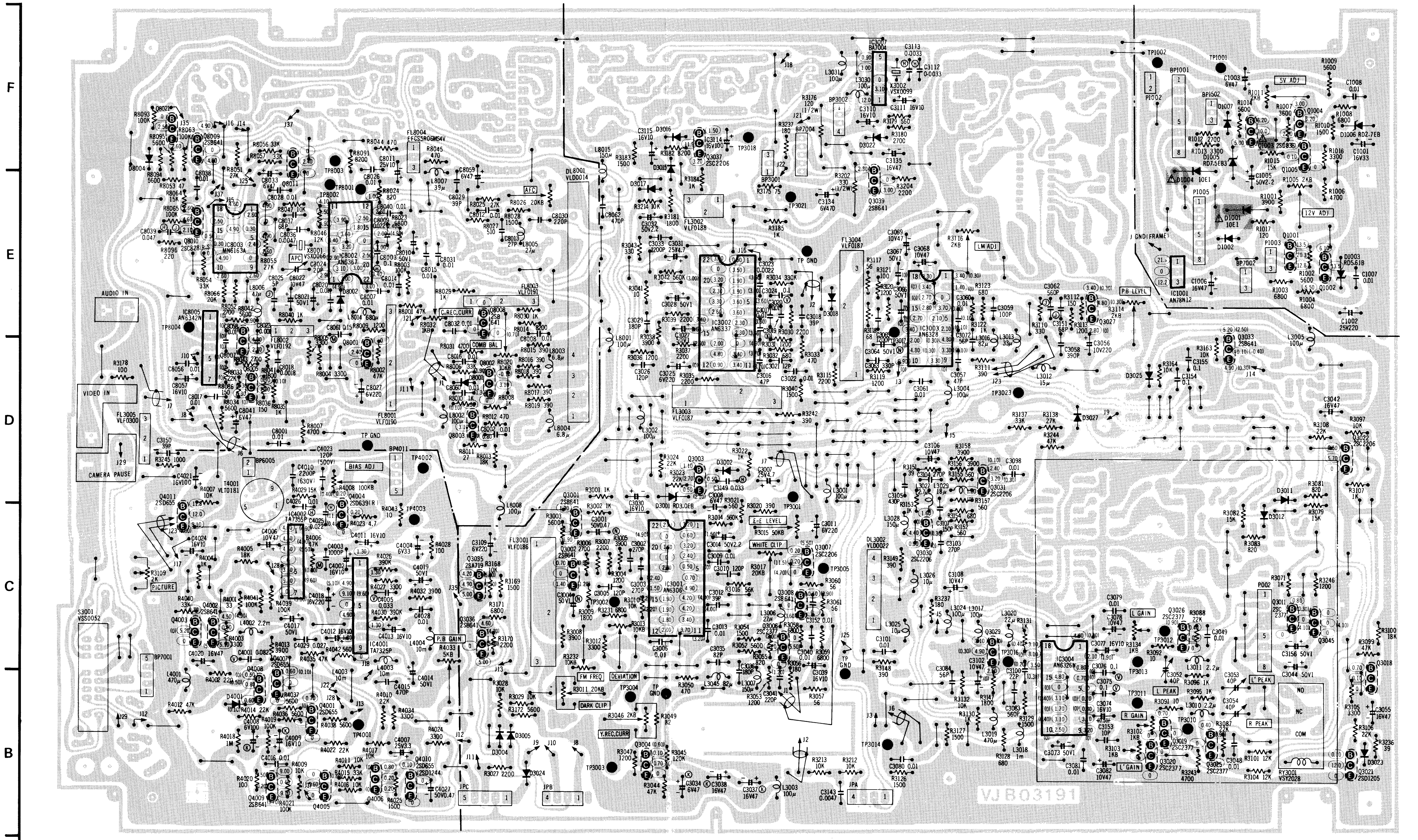


Luminance, Chrominance, Audio & Power Supply Board


CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
AUDIO SECTION
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
TP8003
TP8002
TP8001
R8026
AFC
C8024
APC
R8032
C.REC. CURR
TP8004
TP3018
TP3021
TP GND
R3116
LM ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP GND
TP4002
R4008
BIAS ADJ
TP4003
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TP3002
R3109
PICTURE
R3232
FM FREQ
R3011
DARK CLIP
R3013
DEVIATION
TP GND
R3046
Y.REC.CURR
TP4033
P.B. GAIN
TP3003
TP GND
TP3014
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
TP3010
R PEAK
R3103
L'GAIN
R3102
R GAIN

LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY BOARD (VEP03191A)

Luminance, Chrominance Audio & Power Supply C.B.A.	
Q1001	E-8
Q1002	E-8
Q1003	F-8
Q1004	F-8
Q1005	F-8
Q3001	C-4
Q3002	C-4
Q3003	D-5
Q3004	B-4
Q3006	C-5
Q3007	C-5
Q3008	C-5
Q3011	C-8
Q3018	B-9
Q3019	B-8
Q3020	B-7
Q3021	B-9
Q3022	D-8
Q3025	B-8
Q3026	C-8
Q3027	E-7
Q3029	C-6
Q3030	C-6
Q3031	D-6
Q3033	D-8
Q3035	C-3
Q3036	C-3
Q3037	F-4
Q3039	E-6
Q3045	C-8
Q4001	B-2
Q4002	C-2
Q4003	C-2
Q4004	C-2
Q4005	B-2
Q4006	B-3
Q4007	B-2
Q4008	B-2
Q4009	B-2
Q4010	B-3
Q4011	C-2
Q8001	D-3
Q8002	D-3
Q8003	D-3
Q8005	D-2
Q8007	D-2
Q8008	D-3
Q8009	F-2
Q8010	E-2
Q8011	F-2
Q8021	F-2
IC1001	E-7
IC3001	C-4
IC3002	E-5
IC3003	E-6
IC3004	B-7
IC3007	F-6
IC4001	C-3
IC4002	C-2
IC8002	E-3
IC8003	E-2
IC8005	D-2


F
E
D
C
B
A
VJB03191
AUDIO IN
VIDEO IN
CAMERA PAUSE
PICTURE
BIAS ADJ
AFC
C.REC.CURR
COMB BAL
FM FREQ
DEVIATION
DARK CLIP
Y.REC.CURR
E-E LEVEL
WHITE CLIP
LM ADJ
PB LEVEL
L GAIN
R GAIN
L PEAK
R PEAK
L' GAIN
L' PEAK
5V ADJ
12V ADJ
TP GND
TP8003
TP8001
TP8002
TP8004
TP4001
TP4002
TP4003
TP3001
TP3003
TP3004
TP3005
TP3011
TP3012
TP3013
TP3014
TP3016
TP3018
TP3021
TP3023
TP1001
TP1002
IC1001 AN78N12
IC3001 AN6306
IC3002 AN6337
IC3003 AN6328
IC3004 AN6326
IC3007 BA7004
IC4001 TA7325P
IC4002 TA7355P
IC8002 AN6362
IC8003 MN6163A
IC8005 AN6342N
S3001 VSS0052
RY3001 VSY2028
BP7001
BP6005
BP4011
BP1001
BP1502
BP3001
BP3002
BP7002
BP7004
P1002
P1003
P1005
P002
JPA
JPB
JPC
DL8001 VLD0014
DL3002 VLD0022
FL3001 VLF0186
FL3003 VLF0187
FL3004 VLF0187
FL8001 VLF0190
FL8002 VLF0192
FL8003 VLF0191
FL8004 EFCS5R06MS4V
FL3005 VLF0300
X8001 VSX0066
X3002 VSX0099
T4001 VLT0181
D1001 10E1
D1004 10E1
D1005 RD7.5EB3
D1006 RD2.7EB
D1003 RD5.6JB
NC
COM
GND (FRAME)

BP7001	
1	AUDIO IN
2	GND
3	VIDEO IN
4	GND
5	P.B Ⓗ

BP6005	
1	FE HEAD
2	GND

BP4011	
1	AE HEAD
2	AE GND
3	GND (AUDIO HEAD)
4	AUDIO HEAD (R)
5	AUDIO HEAD (W)

JPA	
1	H. SW PULSE
2	DOC OUT
3	DUMMY V
4	VSS

JPC	
1	SEARCH Ⓛ
2	DELAYD REC 12V
3	REC 12V
4	AUDIO MUTING
5	CAMERA PAUSE

JPB	
1	EXCEPT REC 12V
2	EXCEPT REC Ⓛ
3	REF 50Hz
4	E-E Ⓛ

P002	
1	L CH (F)
2	L CH (S)
3	GND
4	GND
5	L' CH (S)
6	L' CH (F)
7	R CH (F)
8	R CH (S)

BP3001 LINE OUT	
1	VIDEO OUT
2	GND
3	AUDIO OUT

BP7004 RF CONV.	
1	+9V
2	GND
3	VIDEO OUT
4	GND
5	AUDIO OUT

P1002	
1	GND
2	GND

BP3002	
1	+12V
2	TEST SIGNAL Ⓗ
3	COLOUR Ⓗ
4	GND

BP1502	
1	Ⓑ
2	Ⓒ
3	Ⓔ

BP1001	
1	POWER OFF Ⓗ
2	UNREG 24V
3	UNREG 8V
4	GND
5	GND
6	UNREG 18V
7	MOTOR GND
8	REG 6V

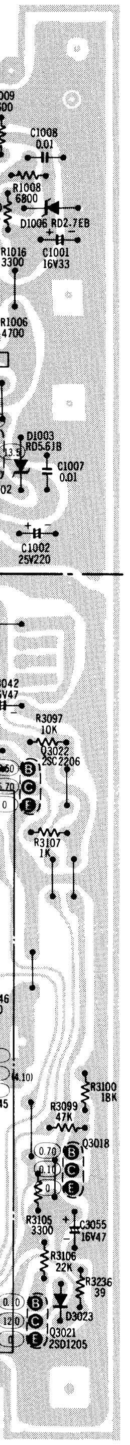
P1005 TO SYSTEM CONTROL	
1	REG 12V Ⓑ
2	REG 5V
3	MOTOR GND
4	UNREG 24V
5	POWER OFF Ⓗ
6	POWER OFF Ⓛ
7	UNREG 18V
8	GND

P1003	
1	Ⓑ
2	Ⓒ
3	Ⓔ

BP7002 TO DEMODULATOR	
1	REG 12.7V
2	REG 12V
3	GND

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165.
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636 (NPN TYPE).

1 2 3 4 5 6 7 8 9


C1008
0.01
R1008
6800
D1006 RD2.7EB
R1016
3300
C1001
16V33
R1006
4700
D1003
RD5.6JB
C1007
0.01
C1002
25V220
R3097
10K
Q3022
2SC2206
R3107
1K
R3100
18K
R3099
47K
Q3018
R3105
3300
C3055
16V47
R3106
22K
R3236
39
D3023
Q3021
2SD1205

P1003	
1	Ⓑ
2	Ⓒ
3	Ⓔ

BP7002 TO DEMODULATOR

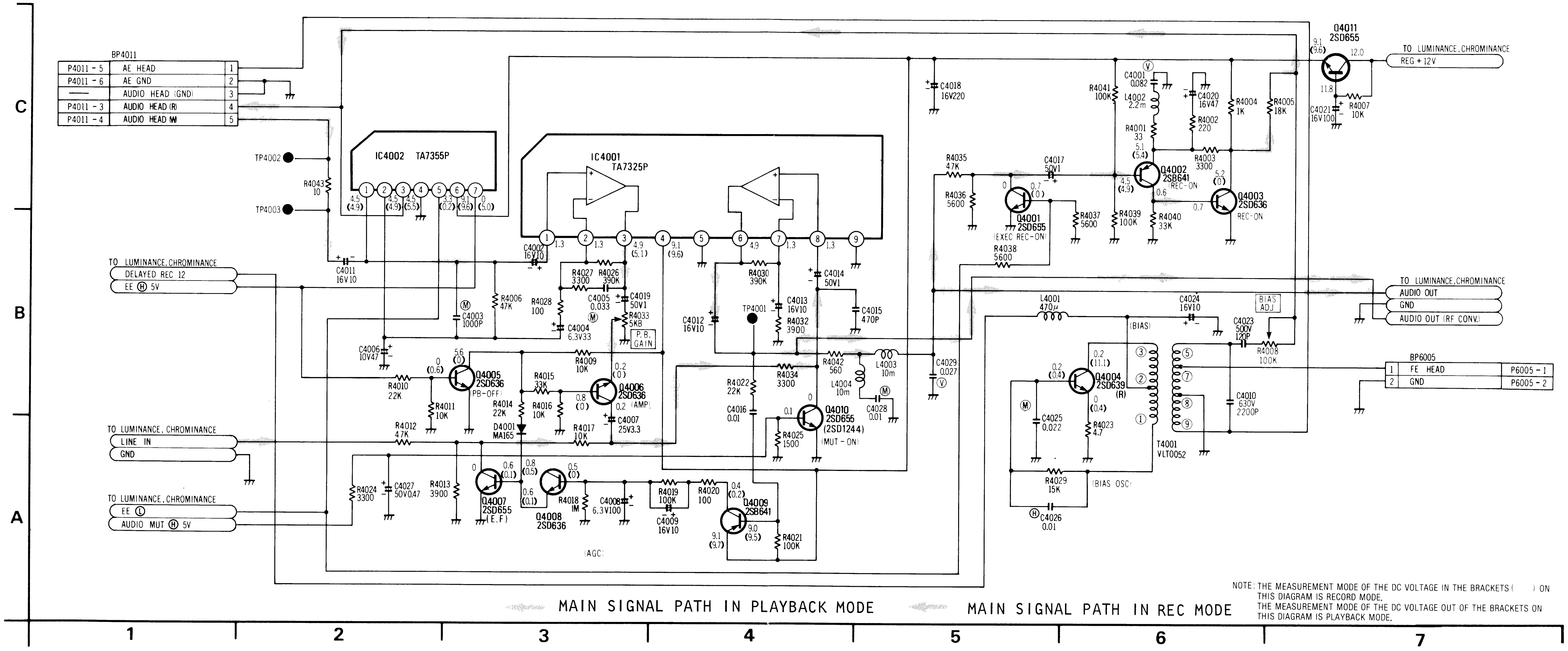
1	REG 12.7V
2	REG 12V
3	GND

SE SPECIFIED, ALL DIODES ARE MA165.
SE SPECIFIED, ALL Tr's ARE 2SD636 (NPN TYPE).

9

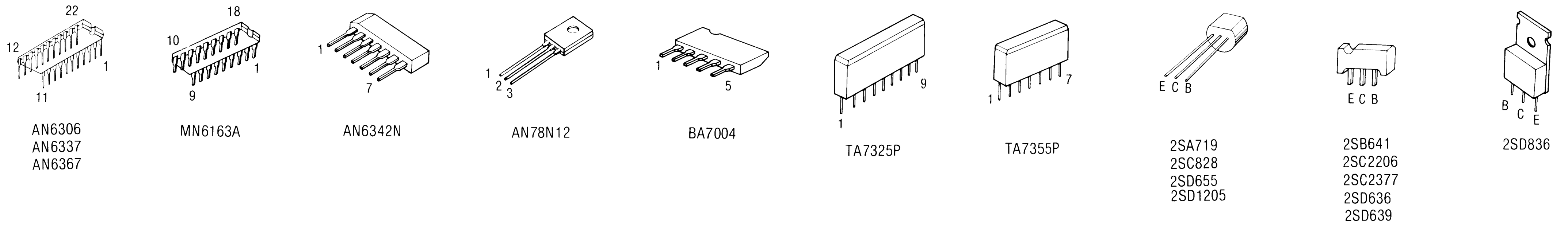
AUDIO SCHEMATIC DIAGRAM

Audio Schematic	
Q4001	C-5
Q4002	C-6
Q4003	C-6
Q4004	B-6
Q4005	B-3
Q4006	B-3
Q4007	A-3
Q4008	A-3
Q4009	A-4
Q4010	B-4
Q4011	C-7
IC4001	C-4
IC4002	C-2

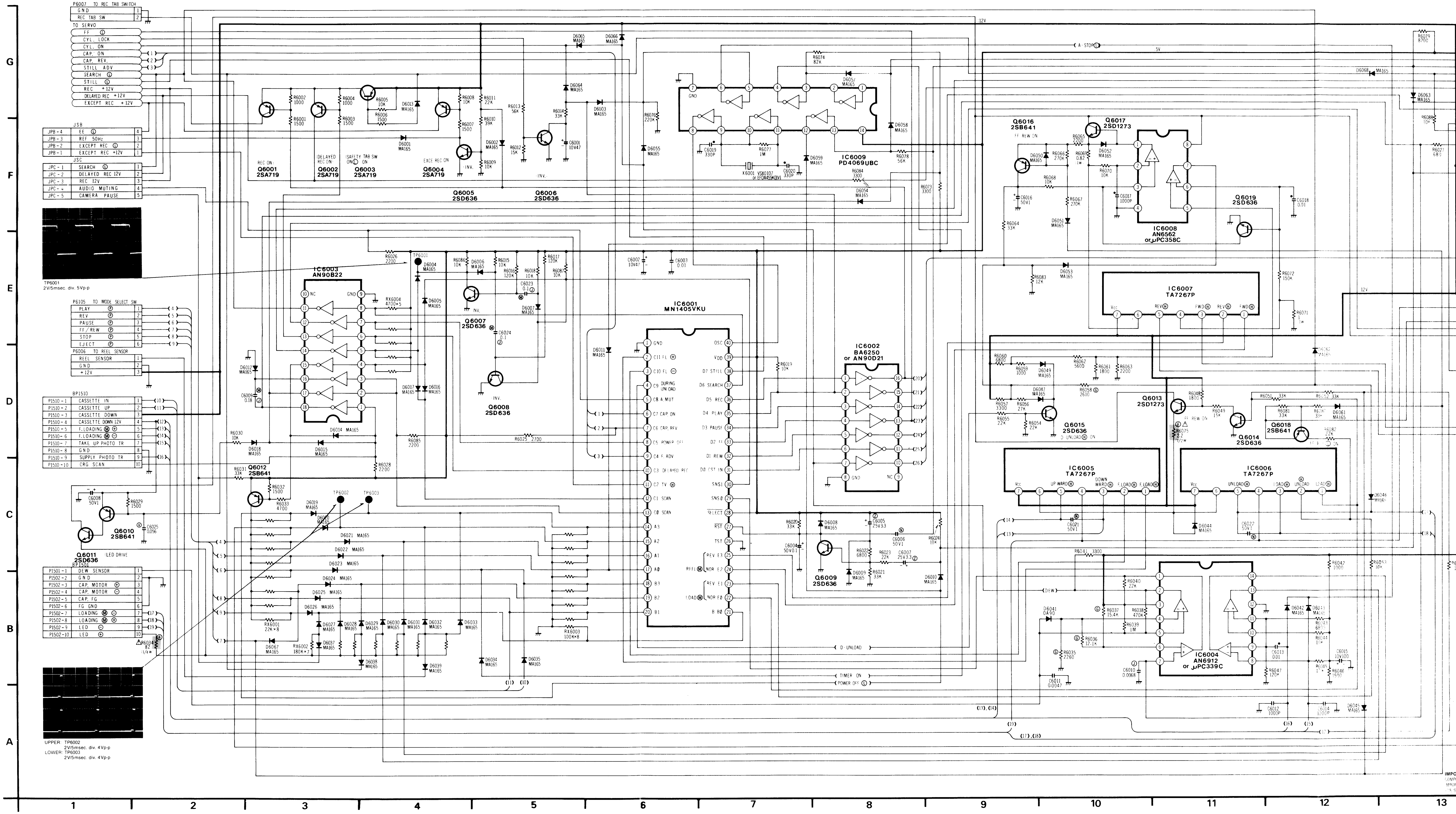

A
B
C
1
2
3
4
5
6
7
BP4011
P4011 - 5
AE HEAD
1
P4011 - 6
AE GND
2
AUDIO HEAD (GND)
3
P4011 - 3
AUDIO HEAD (R)
4
P4011 - 4
AUDIO HEAD (W)
5
TP4002
TP4003
R4043
10
IC4002 TA7355P
4.5 (4.9)
4.5 (4.9)
4.5 (5.5)
3.3 (0.2)
9.1 (9.6)
0 (5.0)
C4011
16V10
TO LUMINANCE, CHROMINANCE
DELAYED REC 12
EE Ⓗ 5V
Ⓜ
C4003
1000P
R4006
47K
R4028
100
C4006
10V47
IC4001
TA7325P
C4002
16V10
1.3
1.3
4.9 (5.1)
9.1 (9.6)
4.9
1.3
1.3
R4027
3300
R4026
390K
C4005
0.033
C4019
50V1
R4033
5KB
P.B. GAIN
C4004
6.3V33
R4009
10K
R4030
390K
C4014
50V1
TP4001
C4013
16V10
R4032
3900
C4012
16V10
C4015
470P
5.6 (0)
0 (0.6)
Q4005
2SD636
(PB-OFF)
R4010
22K
R4011
10K
R4015
33K
0.2 (0)
Q4006
2SD636
(AMP)
0.8 (0)
0.2
R4014
22K
R4016
10K
D4001
MA165
R4017
10K
C4007
25V3.3
R4042
560
L4003
10m
R4034
3300
L4004
10m
Ⓜ
C4028
0.01
R4022
22K
C4016
0.01
0
0.1
Q4010
2SD655
(2SD1244)
(MUT - ON)
R4025
1500
C4029
0.027
Ⓥ
R4012
47K
TO LUMINANCE, CHROMINANCE
LINE IN
GND
TO LUMINANCE, CHROMINANCE
EE Ⓛ
AUDIO MUT Ⓗ 5V
R4024
3300
C4027
50V0.47
R4013
3900
0
0.6 (0.1)
0.8 (0.5)
0.6 (0.1)
0.5 (0)
Q4007
2SD655
(E.F)
Q4008
2SD636
R4018
1M
C4008
6.3V100
R4019
100K
C4009
16V10
R4020
100
0.4 (0.2)
Q4009
2SB641
9.0 (9.5)
9.1 (9.7)
R4021
100K
(AGC)
C4018
16V220
R4035
47K
R4036
5600
0
0.7 (0)
Q4001
2SD655
(EXEC REC-ON)
C4017
50V1
R4037
5600
R4038
5600
R4041
100K
Ⓥ
C4001
0.082
L4002
2.2m
R4001
33
5.1 (5.4)
4.5 (4.9)
Q4002
2SB641
(REC-ON)
0.6
R4039
100K
R4040
33K
C4020
16V47
R4002
220
R4003
3300
R4004
1K
R4005
18K
5.2 (0)
0.7
Q4003
2SD636
(REC-ON)
Q4011
2SD655
9.1 (9.6)
12.0
11.8
C4021
16V100
R4007
10K
TO LUMINANCE, CHROMINANCE
REG + 12V
TO LUMINANCE, CHROMINANCE
AUDIO OUT
GND
AUDIO OUT (RF CONV.)
L4001
470μ
(BIAS)
C4024
16V10
BIAS ADJ
C4023
500V
120P
R4008
100K
0.2 (11.1)
0.2 (0.4)
Q4004
2SD639
(R)
0 (0.4)
Ⓜ
C4025
0.022
R4023
4.7
T4001
VLT0052
C4010
630V
2200P
R4029
15K
(BIAS OSC)
Ⓗ
C4026
0.01
BP6005
1
FE HEAD
P6005 - 1
2
GND
P6005 - 2
MAIN SIGNAL PATH IN PLAYBACK MODE
MAIN SIGNAL PATH IN REC MODE

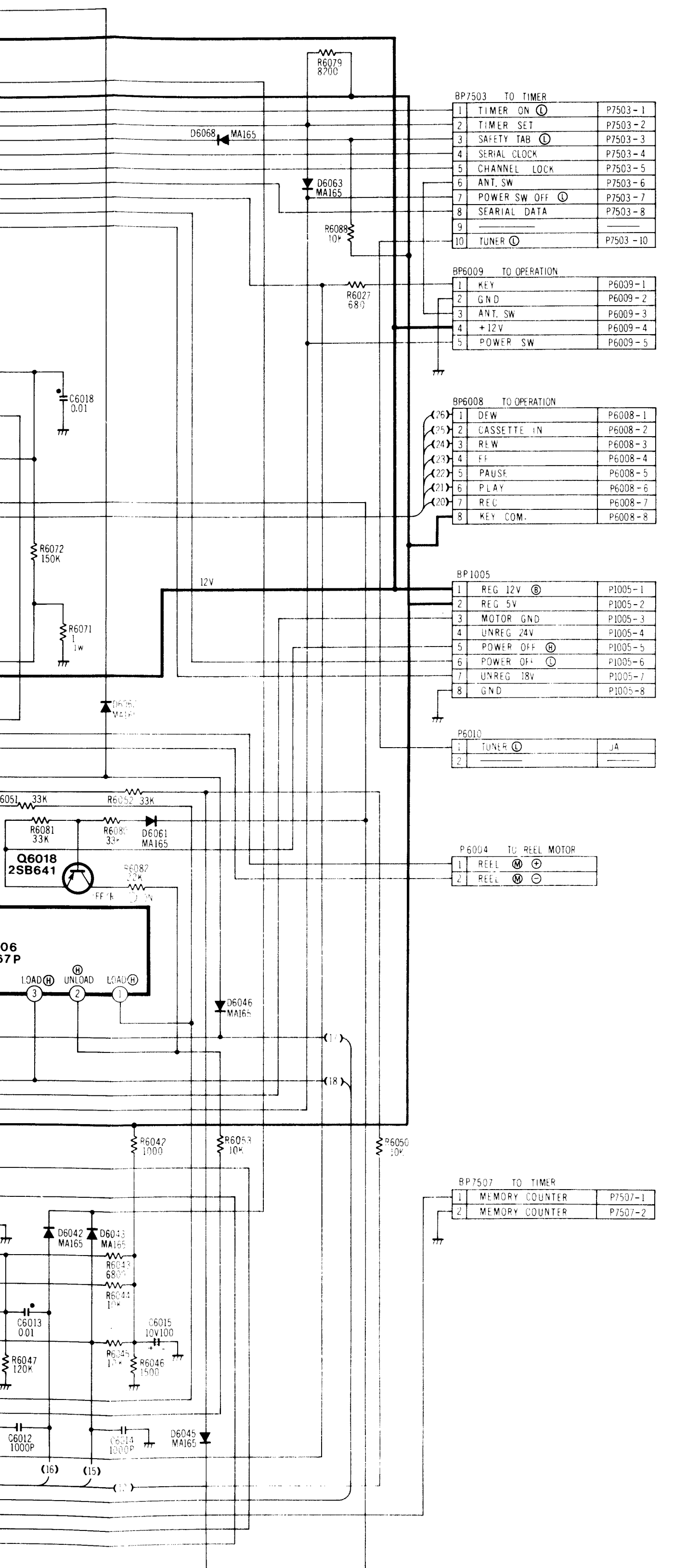
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY BOARD ICs & TRANSISTORs INFORMATION


22
12
1
11
AN6306
AN6337
AN6367
18
10
1
9
MN6163A
1
7
AN6342N
1
2
3
AN78N12
1
5
BA7004
9
1
TA7325P
7
1
TA7355P
E C B
2SA719
2SC828
2SD655
2SD1205
E C B
2SB641
2SC2206
2SC2377
2SD636
2SD639
B
C
E
2SD836

SYSTEM CONTROL SCHEMATIC DIAGRAM


P6007 TO REC TAB SWITCH
GND 1
REC TAB SW 2
TO SERVO
FF Ⓛ
CYL. LOCK
CYL. ON
CAP. ON (1)
CAP. REV. (2)
STILL ADV (3)
SEARCH Ⓛ
STILL Ⓛ
REC +12V
DELAYED REC +12V
EXCEPT REC +12V
JSB
JPB-4 EE Ⓛ 4
JPB-3 REF 50Hz 3
JPB-2 EXCEPT REC Ⓛ 2
JPB-1 EXCEPT REC +12V 1
JSC
JPC-1 SEARCH Ⓛ 1
JPC-2 DELAYED REC 12V 2
JPC-3 REC 12V 3
JPC-4 AUDIO MUTING 4
JPC-5 CAMERA PAUSE 5
TP6001
2V/5msec. div. 5Vp-p
P6105 TO MODE SELECT SW
PLAY Ⓟ 1 (4)
REV Ⓟ 2 (5)
PAUSE Ⓟ 3 (6)
FF/REW Ⓟ 4 (7)
STOP Ⓟ 5 (8)
EJECT Ⓟ 6 (9)
P6006 TO REEL SENSOR
REEL SENSOR 1
GND 2
+12V 3
BP1510
P1510-1 CASSETTE IN 1 (10)
P1510-2 CASSETTE UP 2 (11)
P1510-3 CASSETTE DOWN 3
P1510-4 CASSETTE DOWN 12V 4 (12)
P1510-5 F.LOADING Ⓜ ⊕ 5 (13)
P1510-6 F.LOADING Ⓜ ⊖ 6 (14)
P1510-7 TAKE UP PHOTO TR 7 (15)
P1510-8 GND 8
P1510-9 SUPPLY PHOTO TR 9 (16)
P1510-10 CRG SCAN 10
C6008 50V1
R6029 1500
C6025 0.056
Q6010 2SB641
Q6011 2SD636
LED DRIVE
BP1501
P1501-1 DEW SENSOR 1
P1502-2 GND 2
P1502-3 CAP. MOTOR ⊕ 3
P1502-4 CAP. MOTOR ⊖ 4
P1502-5 CAP. FG 5
P1502-6 FG GND 6
P1502-7 LOADING Ⓜ ⊖ 7 (17)
P1502-8 LOADING Ⓜ ⊕ 8 (18)
P1502-9 LED ⊖ 9 (19)
P1502-10 LED ⊕ 10
R6034 82 1/4W
UPPER: TP6002
2V/5msec. div. 4Vp-p
LOWER: TP6003
2V/5msec. div. 4Vp-p
REC ON
Q6001 2SA719
DELAYED REC ON
Q6002 2SA719
SAFETY TAB SW ON ON
Q6003 2SA719
EXCE REC ON
Q6004 2SA719
Q6005 2SD636
Q6006 2SD636
INV.
IC6003 AN90B22
Q6007 2SD636
Q6008 2SD636
Q6012 2SB641
TP6002
TP6003
RX6001 22K×8
RX6002 180K×7
RX6003 100K×8
RX6004 4700×5
IC6001 MN1405VKU
GND
C11 FL ⊕
C10 FL ⊖
C9 DURING UNLOAD
C8 A. MUT
C7 CAP ON
C6 CAP. REV
C5 POWER OFF
C4 F. ADV
C3 DELAYED REC
C2 TV Ⓡ
C1 SCAN
C0 SCAN
A3
A2
A1
A0
B3
B2
B1
OSC
VDD
D7 STILL
D6 SEARCH
D5 REC
D4 PLAY
D3 PAUSE
D2 FF
D1 REW
D0 CST IN
SNS1
SNS0
SELECT
RST
TST
REV E3
REF Ⓜ NOR E2
REV E1
LOAD Ⓜ NOR E0
B B0
IC6009 PD4069UBC
X6001 VSX0107 or EFOA455K00V
IC6002 BA6250 or AN90D21
Q6009 2SD636
A-STOP Ⓛ
12V
5V
Q6016 2SB641
FF REW ON
Q6017 2SD1273
IC6008 AN6562 or μPC358C
Q6019 2SD636
IC6007 TA7267P
Vcc REV Ⓡ FWD Ⓡ REV Ⓡ FWD Ⓡ
Q6013 2SD1273
Q6015 2SD636
Q6014 2SD636
Q6018 2SB641
IC6005 TA7267P
Vcc UP WARD Ⓡ DOWN WARD Ⓡ F.LOAD Ⓡ F.LOAD Ⓡ
IC6006 TA7267P
Vcc UNLOAD Ⓡ LOAD Ⓡ UNLOAD Ⓡ LOAD Ⓡ
IC6004 AN6912 or μPC339C
D UNLOAD
TIMER ON
POWER OFF Ⓛ
DEW
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13


BP7503 TO TIMER
TIMER ON
TIMER SET
SAFETY TAB
SERIAL CLOCK
CHANNEL LOCK
ANT. SW
POWER SW OFF
SEARIAL DATA
TUNER
BP6009 TO OPERATION
KEY
GND
ANT. SW
+12V
POWER SW
BP6008 TO OPERATION
DEW
CASSETTE IN
REW
FF
PAUSE
PLAY
REC
KEY COM.
BP1005
REG 12V
REG 5V
MOTOR GND
UNREG 24V
POWER OFF
POWER OFF
UNREG 18V
GND
P6010
TUNER
P6004 TO REEL MOTOR
REEL
REEL
BP7507 TO TIMER
MEMORY COUNTER
MEMORY COUNTER
Q6018
2SB641
LOAD
UNLOAD
LOAD
12V
12
13
14

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

SYSTEM CONTROL ICs D.C. VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0	0	0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.7	0.4	0.5	0.2	0.2	0.3	0.2	0.3	0.2
PLAY	0	0	0	0	2.2	4.9	0.2	0.1	0.1	0.1	3.3	0.7	0.4	0.4	0.3	0	0.3	0.2	0.3	0.5
REC	0	0	0	0	2.2	4.9	0.2	0.1	0.1	3.6	0.1	0.7	0.4	0.4	0.5	0	0.3	0.3	0.3	0.5
F.F	0	0	0	0	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.7	0.4	0.4	0.4	0.3	0.2	0.3	0	0.5
REW	0	0	0	0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.7	0.4	0.4	0.4	0.2	0.2	0.3	0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	49	40
STOP	0.5	0.1	0.1	0.1	0.1	0	5.1	5.1	0	2.6	0	0	0.1	0.1	0	0.1	0.2	3.4	5.1	2.6
PLAY	0.5	0.1	0.1	0.1	0.1	0	5.1	5.1	0	0	4.3	0.1	0.1	0.1	4.2	0.1	0.2	3.9	5.1	2.6
REC	0.5	0.1	0.1	0.1	0.1	0	5.0	5.1	0	2.6	4.3	0.1	0.1	0.1	4.2	4.4	0.2	3.9	5.1	2.6
F.F	0.5	0.1	0.1	5.0	0.1	0	5.1	5.1	0	2.6	4.3	0.1	4.4	0.1	0.1	0.1	0.2	3.9	5.1	2.6
REW	0.5	0.1	0.1	0.1	5.0	0	5.1	5.1	0	2.6	4.3	4.3	0.1	0.1	0.1	0.1	0.2	3.9	5.1	2.6

REF. NO.	IC6002															
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STOP	0.1	0.1	0.1	0.1	0.1	4.4	0	0	0	10.6	0.9	10.7	10.4	10.7	10.7	12.0
PLAY	0.1	4.2	0.1	0.1	0.1	4.3	0	0	0	10.5	0.9	10.6	10.4	10.6	0.9	12.0
REC	4.4	4.2	0.1	0.1	0.1	4.3	0	0	0	10.5	0.9	1.8	10.4	10.6	0.9	1.0
F.F	0.1	0.1	0.1	4.4	0.1	4.3	0	0	0	10.5	0.9	10.6	0.9	10.6	10.7	12.0
REW	0.1	0.1	0.1	0.1	4.3	4.3	0.1	0	0	10.5	0.9	0.9	10.4	10.6	10.6	12.0

REF. NO.	IC6003																	
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
STOP	3.3	0.4	0.4	0.8	0.8	0.1	0.1	0.2	0	0	9.1	13.1	12.0	4.6	4.8	0	11.0	0
PLAY	3.3	0.4	0.4	0.8	0.8	0.1	0.1	0.2	0	0	9.1	13.1	12.0	4.5	4.8	0	10.9	0
REC	3.3	0.4	0.4	0.8	0.8	3.6	0.1	0.2	0	0	9.1	13.1	0.2	4.5	4.8	0	10.9	0
F.F	3.3	0.4	0.4	0.8	0.8	0.1	0.1	0.2	0	0	9.1	13.1	12.0	4.5	4.8	0	10.9	0
REW	3.3	0.4	0.4	0.8	0.8	0.1	0.1	0.2	0	0	9.2	13.1	12.0	4.5	4.8	0	11.0	0

REF. NO.	IC6004													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0	0.1	5.1	0.4	0	2.5	0	3.1	2.9	3.1	2.9	0	0	0
PLAY	0	0.1	5.1	0.4	0	2.5	0	3.1	2.9	3.1	2.9	0	0	0
REC	0	0.1	5.1	0.4	0	2.4	0	3.1	2.9	3.1	2.9	0	0	0
F.F	0	0.1	5.1	0.4	0	2.5	0	3.1	2.9	3.1	2.9	0	0	0
REW	0	0.1	5.1	0.4	0	2.5	0	3.1	2.9	3.1	2.9	0	0	0

REF. NO.	IC6005							IC6006						
MODE	1	2	3	4	5	6	7	1	2	3	4	5	6	7
STOP	0	0	0.5	0	0.7	10.5	12.0	0.1	0.1	9.1	0	9.1	10.5	12.0
PLAY	0	0	0.7	0	0.7	10.5	12.0	0.1	0.1	9.1	0	9.1	10.5	12.0
REC	0	0	0.5	0	0.6	10.5	12.0	0.1	0.1	9.1	0	9.1	10.5	12.0
F.F	0	0	0.2	0	0.2	11.8	12.0	0.1	0.1	9.2	0	9.2	11.8	12.0
REW	0	0	0.1	0	0.2	11.8	12.0	0.1	0.1	9.2	0	9.2	11.8	12.0

REF. NO.	IC6007							IC6008							
MODE	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
STOP	0.1	0.1	0.1	0	0.1	9.4	0	9.2	9.4	9.4	0	0.9	0	20.3	21.5
PLAY	0.1	0.1	0.1	0	0.1	9.4	12.0	9.2	9.4	9.4	0	0.9	0	19.6	20.8
REC	0.1	0.1	0.3	0	0.3	9.4	12.0	9.1	9.4	9.4	0	0.9	0	19.3	20.5
F.F	5.0	0.1	9.4	0.2	0.9	10.1	12.0	10.9	10.3	10.2	0	0.9	0.2	19.7	20.9
REW	0.1	5.0	0.9	0.2	9.6	10.3	12.0	11.1	10.6	10.5	0	0.9	0.2	19.6	20.9

REF. NO.	IC6009													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	—	—	5.0	0	0	5.1	0	2.6	2.6	2.6	2.4	5.1	0	5.1
PLAY	—	—	5.0	0	0	5.1	0	2.6	2.6	2.6	2.4	5.1	0	5.1
REC	—	—	5.0	0	0	5.1	0	2.6	2.6	2.6	2.4	5.1	0	5.1
F.F	—	—	5.0	0	0	5.1	0	2.6	2.6	2.6	2.4	5.1	0	5.1
REW	—	—	5.0	0	0	5.1	0	2.6	2.6	2.6	2.4	5.1	0	5.1

System Control Schematic	
Q6001	G-3
Q6002	G-3
Q6003	G-3
Q6004	G-4
Q6005	F-5
Q6006	F-5
Q6007	E-4
Q6008	D-5
Q6009	C-8
Q6010	C-1
Q6011	C-1
Q6012	C-3
Q6013	D-11
Q6014	D-11
Q6015	D-10
Q6016	F-9
Q6017	F-10
Q6018	D-12
Q6019	F-11
IC6001	D-6
IC6002	D-8
IC6003	E-3
IC6004	B-11
IC6005	D-10
IC6006	D-12
IC6007	E-11
IC6008	F-10
IC6009	G-7

SYSTEM CONTROL TRANSISTORs D.C. VOLTAGE CHART

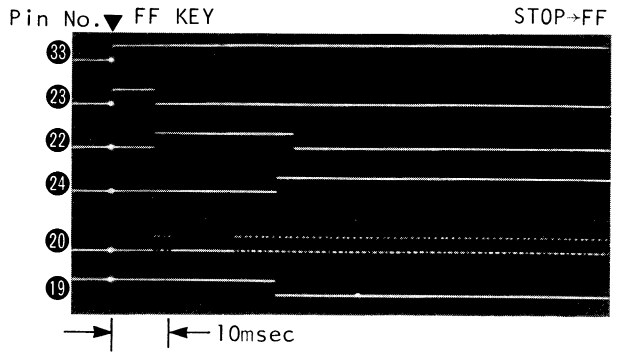
REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	12.0	0	12.0	12.0	0.2	12.0	12.0	12.0	11.3	12.0	12.0	11.2	0	0.1	0.7
PLAY	12.0	0	12.0	12.0	0.2	12.0	12.0	12.0	11.2	12.0	12.0	11.2	0	0.1	0.7
REC	11.8	11.8	11.0	11.8	11.6	11.0	11.9	11.8	11.1	11.9	0	11.9	0	11.9	0.3
F.F	12.0	0	12.0	12.0	0.2	12.0	12.0	12.0	11.2	12.0	12.0	11.2	0	0.1	0.7
REW	12.0	0	12.0	12.0	0.2	12.0	12.0	12.0	11.2	—	—	—	0	0.1	0.7

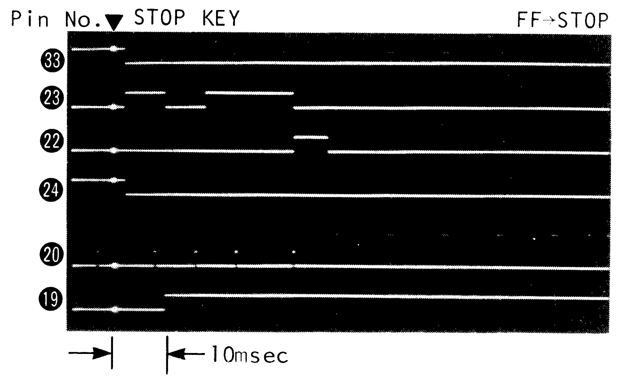
REF. NO.	Q6006			Q6007			Q6008			Q6009			Q6010		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.1	0.5	0	2.6	−0.4	0	2.6	−0.4	0	5.1	0	12.0	1.5	12.0
PLAY	0	0	0.6	0	2.6	−0.4	0	2.6	−0.4	0	5.1	0	12.0	7.3	11.9
REC	0	0	0.6	0	2.6	−0.4	0	2.6	−0.4	0	5.1	0	12.0	7.3	11.9
F.F	0	0.1	0.5	0	2.6	−0.4	0	2.6	−0.4	0	5.1	0	12.0	7.3	11.9
REW	0	0.1	0.5	0	2.6	−0.4	0	2.6	−0.4	0	5.1	0	12.0	8.4	11.9

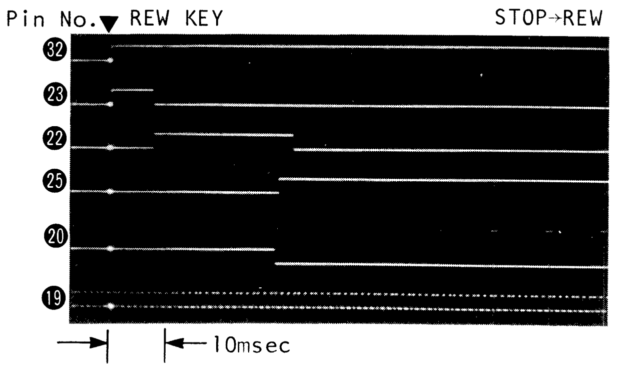
REF. NO.	Q6011			Q6012			Q6013			Q6014			Q6015		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.7	21.6	0	5.1	0.3	5.1	10.5	21.6	10.7	0	0	0.7	0	9.1	0
PLAY	0.7	21.0	6.5	5.1	0.3	0	10.5	20.5	10.7	0	0	0.7	0	9.1	0
REC	0.7	20.9	7.2	5.1	0.3	5.0	10.5	20.4	10.7	0	0	0.7	0	9.1	0
F.F	0.7	20.7	6.5	5.1	−0.2	5.0	11.8	20.5	12.0	0	12.0	0	0	9.1	0
REW	0.7	20.6	8.4	5.1	0	5.0	11.8	20.5	12.0	0	12.0	0.3	0	9.1	0

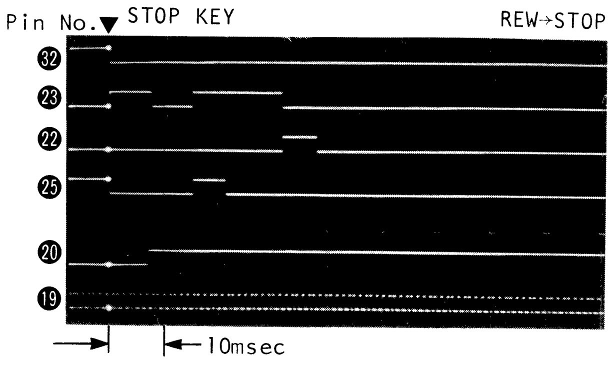
REF. NO.	Q6016			Q6017			Q6018			Q6019		
MODE	E	C	B	E	C	B	E	C	B	E	C	B
STOP	9.4	9.4	9.2	9.4	21.6	9.2	0	0.1	0	0	9.4	0
PLAY	9.4	9.4	9.2	9.4	20.5	9.1	0	0.1	0	0	9.4	0
REC	9.4	9.4	9.2	9.4	20.4	9.1	0	0.1	0	0	9.4	0
F.F	10.3	10.2	9.7	10.7	20.3	11.3	0	0.1	0	0	10.8	0.2
REW	10.2	10.2	9.6	10.3	20.4	10.9	0	0.1	0	0	10.2	0.2

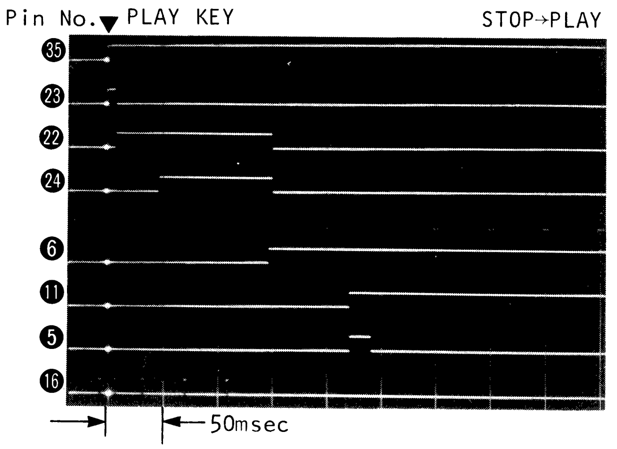
MICROPROCESSOR (IC6001) MODE BY MODE TIMING CHART

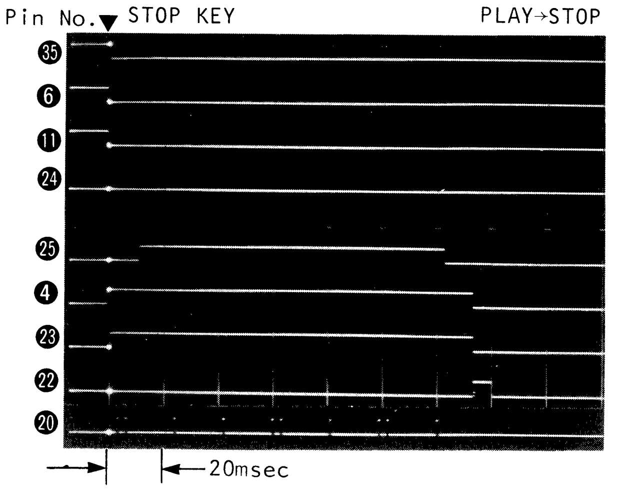




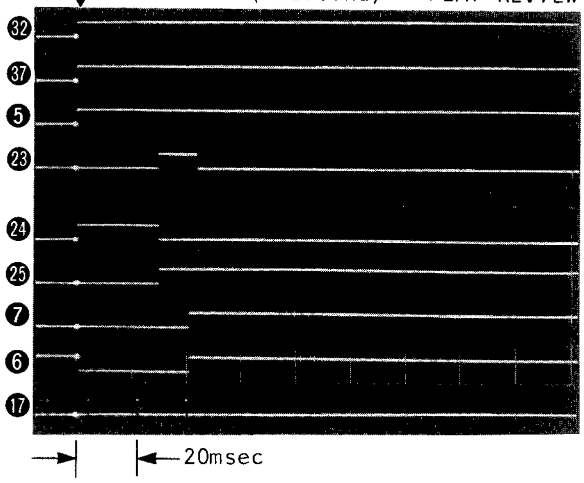




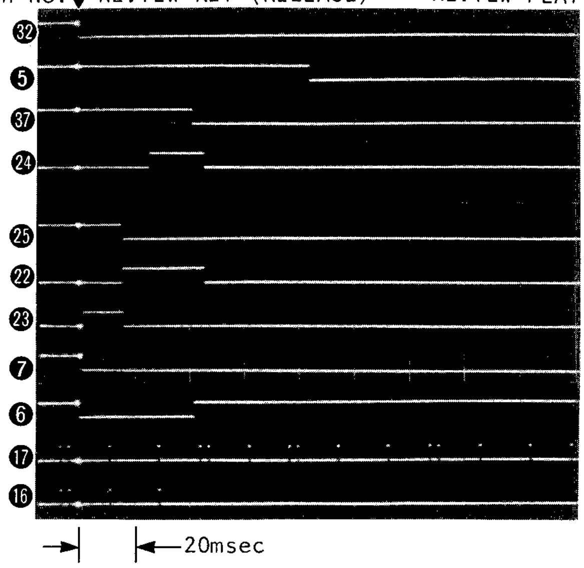




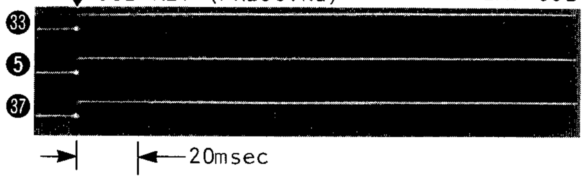
Pin No. ▼ REVIEW KEY (PRESSING) PLAY→REVIEW



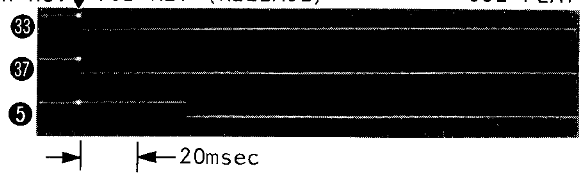
Pin No. ▼ REVIEW KEY (RELEASE) REVIEW→PLAY



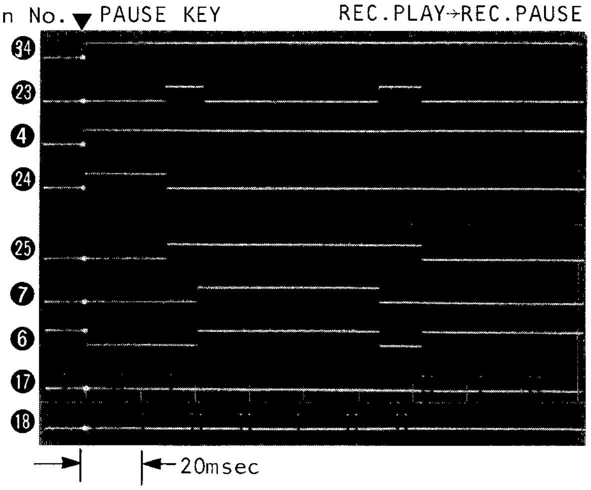
Pin No. ▼ CUE KEY (PRESSING) PLAY→CUE



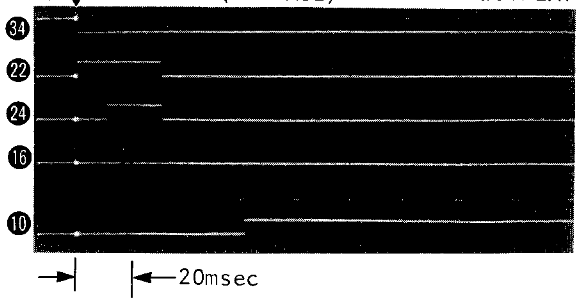
Pin No. ▼ CUE KEY (RELEASE) CUE→PLAY



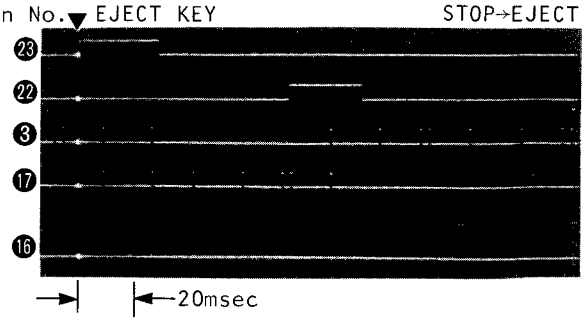
Pin No. ▼ PAUSE KEY REC.PLAY→REC.PAUSE



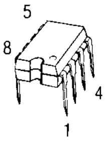
Pin No. ▼ PAUSE KEY (RELEASE) REC.PAUSE→ REC.PLAY



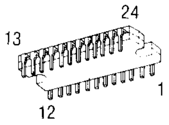
Pin No. ▼ EJECT KEY STOP→EJECT



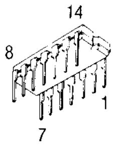
SERVO & SYSTEM CONTROL BOARD ICs & TRANSISTORs INFORMATION



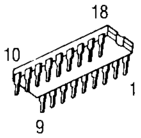
AN6562



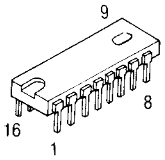
AN6677



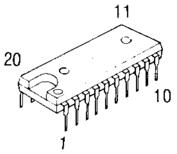
AN6914



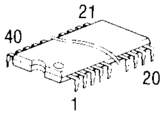
AN90B22



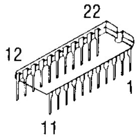
BA6250



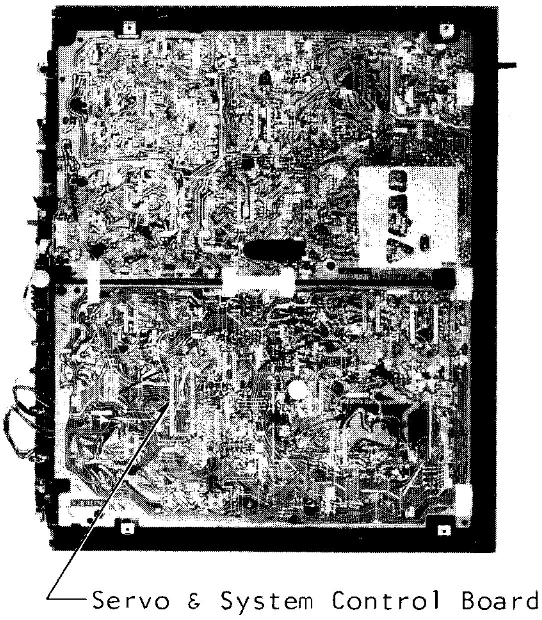
BA855

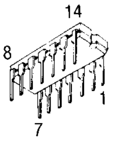


MN1405VKU

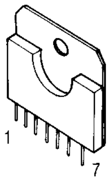


µPC1504C1
µPC1505C1

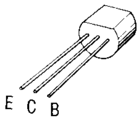

Servo & System Control Board



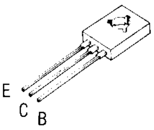
µPD4069UBC



TA7267P

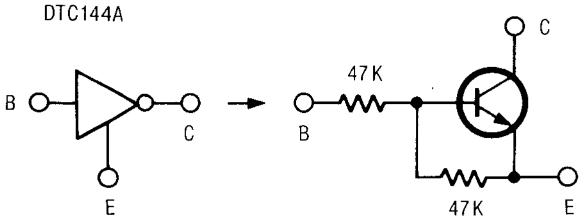


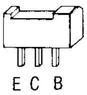
2SD889
2SD892
2SA719

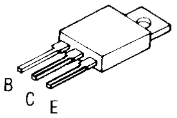


2SD946

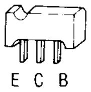
DTC144A


B
C
E
B
47K
C
47K
E

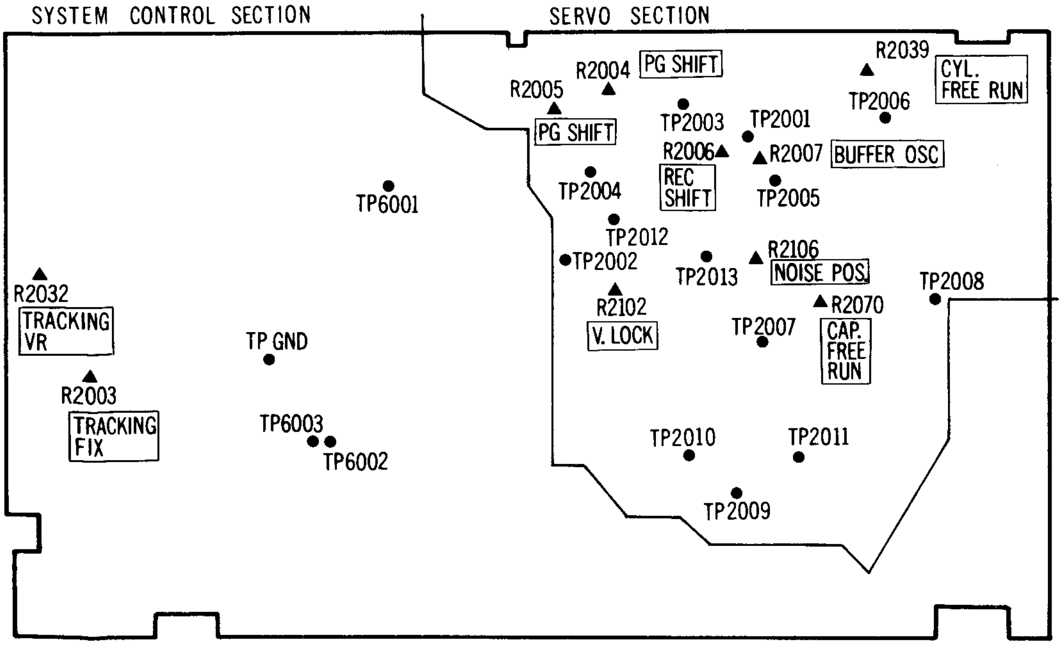




2SD1265
2SD1273



2SB643
2SD636
2SB641


SYSTEM CONTROL SECTION
SERVO SECTION
R2039
CYL. FREE RUN
R2004
PG SHIFT
R2005
PG SHIFT
TP2003
TP2001
TP2006
R2006
R2007
BUFFER OSC
TP6001
TP2004
REC SHIFT
TP2005
TP2012
R2106
TP2002
TP2013
NOISE POS.
TP2008
R2032
TRACKING VR
R2102
V. LOCK
R2070
TP GND
TP2007
CAP. FREE RUN
R2003
TRACKING FIX
TP6003
TP6002
TP2010
TP2011
TP2009

Servo & System Control C.B.A.	
Q2005	E-6
Q2006	E-6
Q2007	E-8
Q2008	E-8
Q2009	E-8
Q2010	E-9
Q2014	D-8
Q2015	E-8
Q2016	C-6
Q2017	E-9
Q2018	D-9
Q2019	E-9
Q2020	C-8
Q2021	D-6
Q2022	D-6
Q2027	E-6
Q6001	E-3
Q6002	E-4
Q6003	E-3
Q6004	F-4
Q6005	F-4
Q6006	F-3
Q6007	E-4
Q6008	E-4
Q6009	E-2
Q6010	D-5
Q6011	C-5
Q6012	D-5
Q6013	D-9
Q6014	C-5
Q6015	B-4
Q6016	B-4
Q6017	D-9
Q6018	C-5
Q6019	B-5
QR2001	F-5
IC2001	F-8
IC2002	F-9
IC2003	C-7
IC2004	D-7
IC6001	D-4
IC6002	D-3
IC6003	E-5
IC6004	C-3
IC6005	B-9
IC6006	C-9
IC6007	E-9
IC6008	B-4
IC6009	F-3

SERVO & SYSTEM CONTROL BOARD (VEP02176A)

BP7503

1	TIMER ON
2	TIMER SET
3	REC. REQUEST
4	SCK OUT
5	CH LOCK
6	ANT. SW.
7	POWER SW. OFF Ⓛ
8	SERIAL DATA
9	———
10	TUNER Ⓛ

BP6009

1	KEY
2	GND
3	ANT. SW.
4	+12V
5	POWER SW.

BP7507

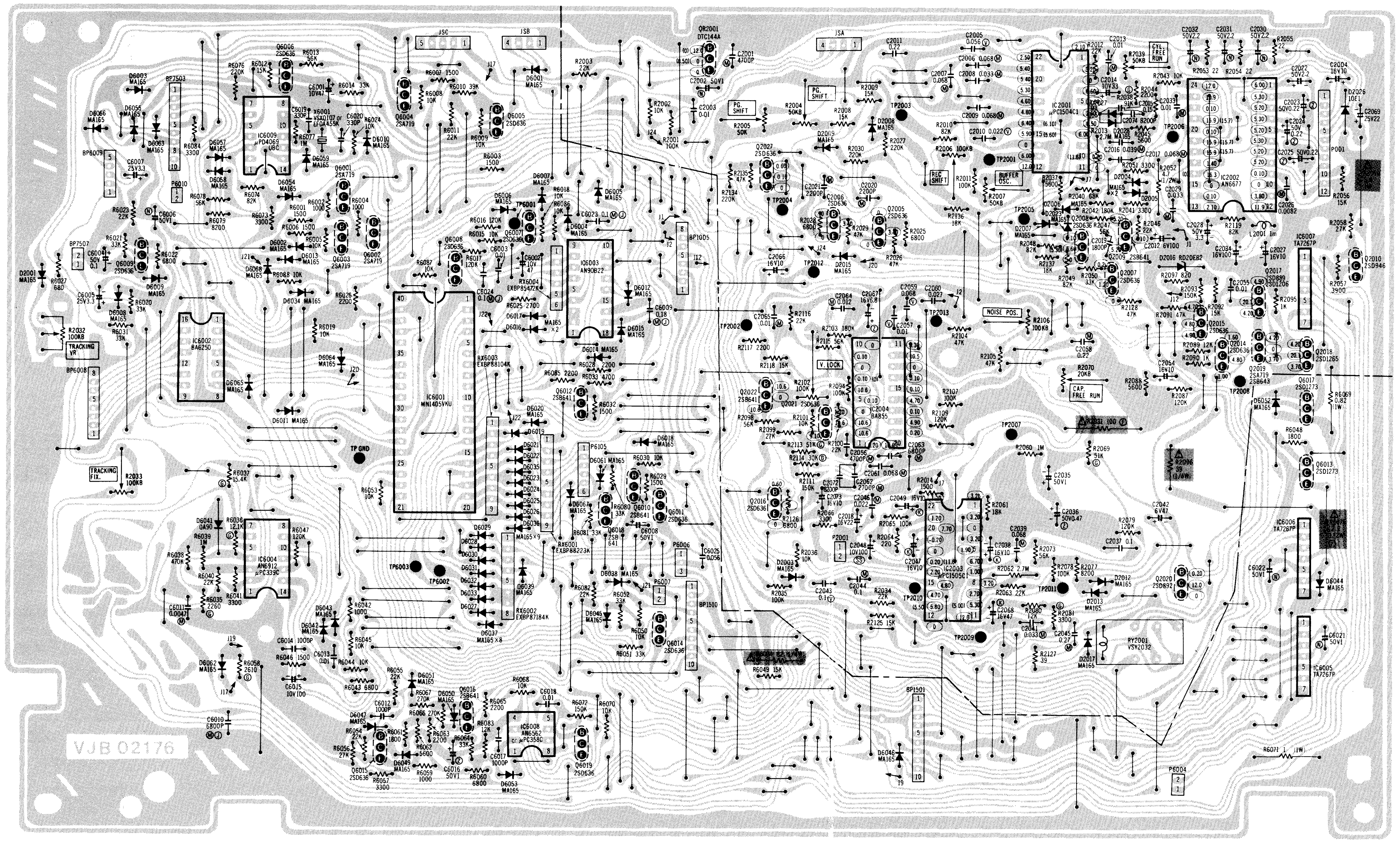
1	MEMORY COUNTER
2	MEMORY COUNTER

P6010

1	TUNER Ⓛ
2	———

BP6008

1	DEW
2	CASSETTE IN
3	REW.
4	F.F.
5	PAUSE
6	PLAY
7	REC.
8	KEY COM.



VJB 02176
IC6001 MN1405VKU
IC6002 BA6250
IC6003 AN9082
IC6004 AN6912
IC6005 TA7267P
IC6006 TA7267P
IC6007 TA7267P
IC6009 uPD4065
IC2001 uPC1504C1
IC2002 AN6677
IC2003 uPC1505C1
TP2001
TP2002
TP2003
TP2004
TP2005
TP2006
TP2007
TP2008
TP2009
TP2010
TP2011
TP2012
TP2013
TP6002
TP6003
TP GND
TRACKING VR
TRACKING FIX.
PG SHIFT
REC SHIFT
BUFFER OSC.
NOISE POS.
CAP FREE RUN
CYL FREE RUN
V. LOCK
JSA
JSB
JSC
P001
BP1005
BP1510
BP1501
P6004
P6006
P6007
P6105

P001

1	PG. SIGNAL
2	———
3	MAIN 3
4	MAIN 2
5	MAIN 1
6	M-COM.
7	P3
8	P2
9	P1
10	P-COM.
11	GND
12	OSC.

JSC

1	SEARCH Ⓛ
2	DELAYED REC. 12V
3	REC. 12V
4	AUDIO MUTING
5	CAMERA PAUSE

JSB

1	EXCEPT REC. +12V
2	EXCEPT REC. Ⓛ
3	REF. 50Hz
4	E.E. Ⓛ

P6105

1	PLAY Ⓟ
2	REV. Ⓟ
3	PAUSE Ⓟ
4	F.F./REW. Ⓟ
5	STOP Ⓟ
6	EJECT Ⓟ

P6006

1	REEL SENSOR
2	GND
3	+12V

P6007

1	GND
2	TAB.

BP1005

1	REG. +12V
2	REG. +5V
3	MOTOR GND
4	UNREG. 24V
5	POWER OFF Ⓗ
6	POWER OFF Ⓛ
7	UNREG. 18V
8	GND

BP1510

1	CASSETTE IN
2	CASSETTE UP
3	CASSETTE DOWN
4	CASSETTE ON 12V
5	F.-LOADING Ⓜ ⊕
6	F.-LOADING Ⓜ ⊖
7	TAKE UP PHOTO TR.
8	GND
9	SUPPLY PHOTO TR.
10	CRG. 30N

JSA

1	H. SW. PULSE
2	DOC. IN
3	DUMMY V.
4	VSS

P2001

1	CONTROL HEAD
2	GND

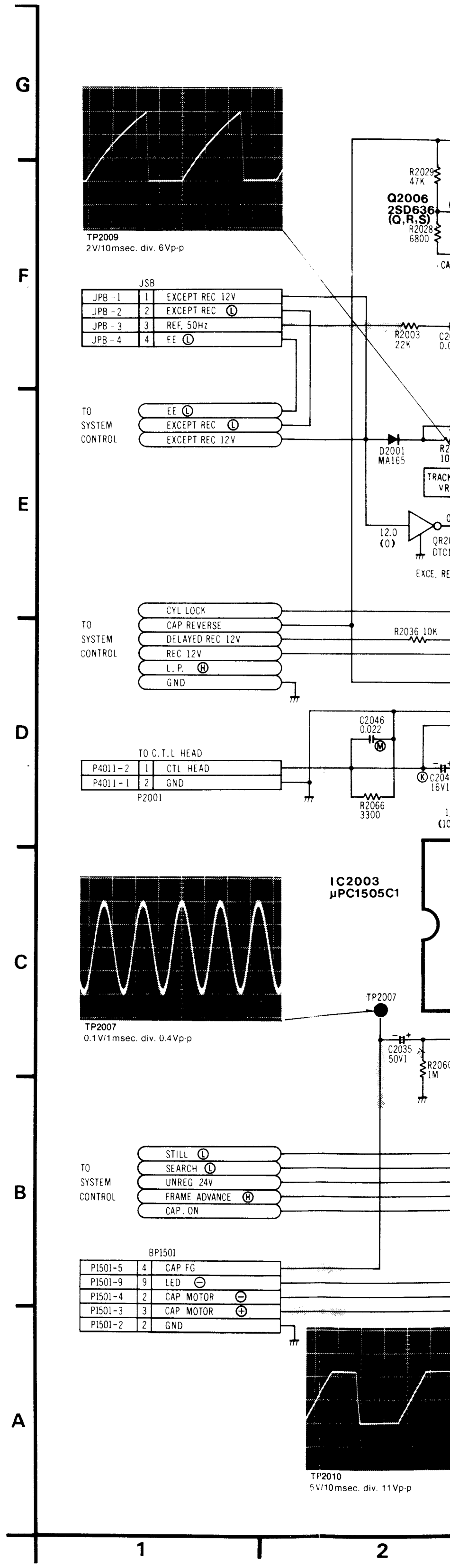
BP1501

1	DEW SENSOR
2	GND
3	CAPSTAN Ⓜ ⊕
4	CAPSTAN Ⓜ ⊖
5	CAPSTAN FG.
6	GND
7	LOADING Ⓜ ⊖
8	LOADING Ⓜ ⊕
9	LED ⊖
10	LED ⊕

P6004

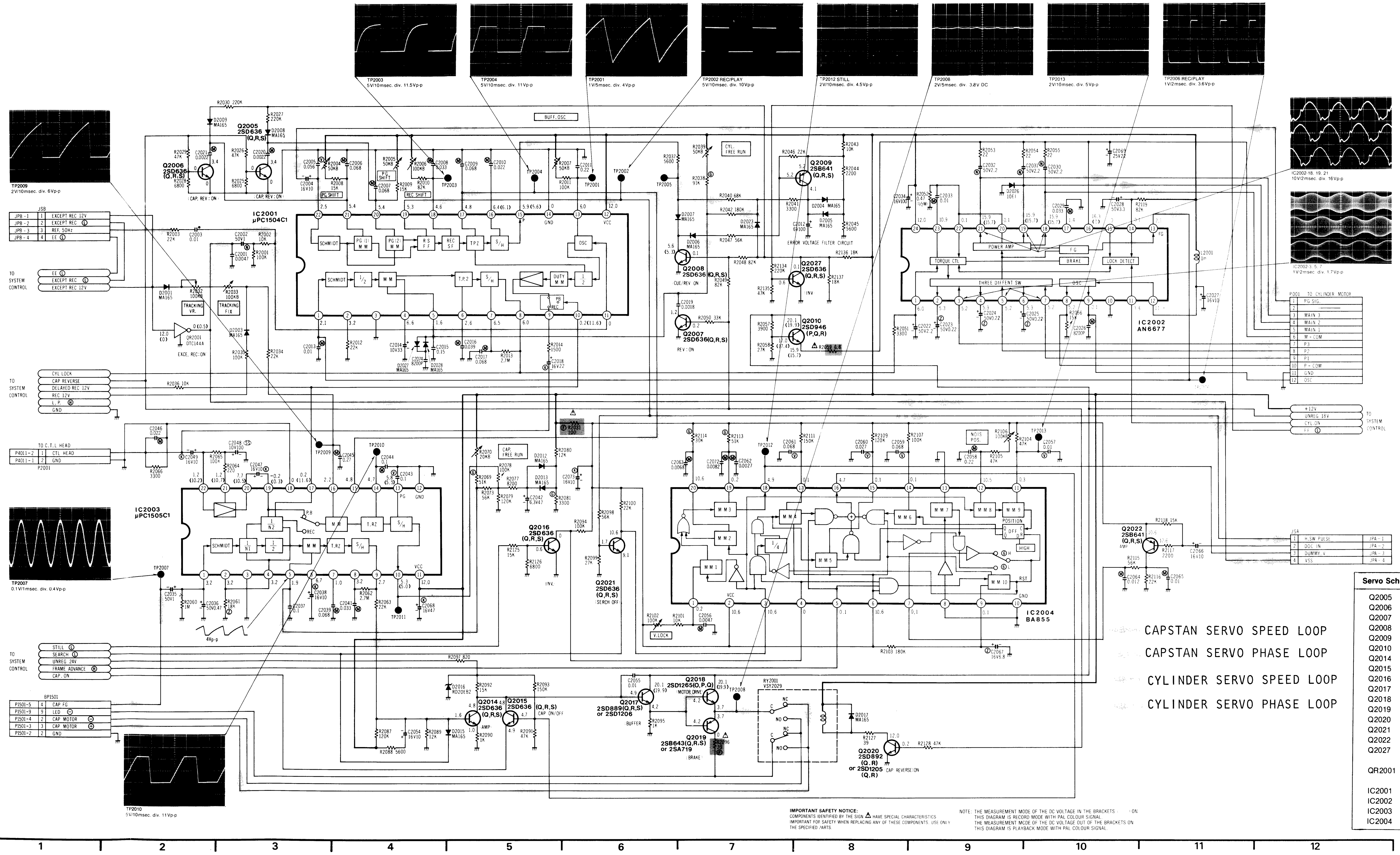
1	REEL Ⓜ ⊕
2	REEL Ⓜ ⊖

SERVO SCHEMATI



TP2009
2V/10msec. div. 6Vp-p
JSB
EXCEPT REC 12V
EXCEPT REC Ⓛ
REF. 50Hz
EE Ⓛ
TO SYSTEM CONTROL
EXCEPT REC Ⓛ
EXCEPT REC 12V
CYL LOCK
CAP REVERSE
DELAYED REC 12V
REC 12V
L.P. Ⓗ
GND
TO C.T.L HEAD
CTL HEAD
P2001
IC2003
µPC1505C1
TP2007
0.1V/1msec. div. 0.4Vp-p
STILL Ⓛ
SEARCH Ⓛ
UNREG 24V
FRAME ADVANCE Ⓗ
CAP. ON
BP1501
CAP FG
LED ⊖
CAP MOTOR ⊖
CAP MOTOR ⊕
GND
TP2010
5V/10msec. div. 11Vp-p

ERVO SCHEMATIC DIAGRAM


TP2003 5V/10msec. div. 11.5Vp-p
TP2004 5V/10msec. div. 11Vp-p
TP2001 1V/5msec. div. 4Vp-p
TP2002 REC/PLAY 5V/10msec. div. 10Vp-p
TP2012 STILL 2V/10msec. div. 4.5Vp-p
TP2008 2V/5msec. div. 3.8V DC
TP2013 2V/10msec. div. 5Vp-p
TP2006 REC/PLAY 1V/2msec. div. 3.6Vp-p
IC2002-18, 19, 21 10V/2msec. div. 16Vp-p
IC2002-3, 5, 7 1V/2msec. div. 1.7Vp-p
TP2009 2V/10msec. div. 6Vp-p
TP2007 0.1V/1msec. div. 0.4Vp-p
TP2010 5V/10msec. div. 11Vp-p
IC2001 μPC1504C1
IC2002 AN6677
IC2003 μPC1505C1
IC2004 BA855
Q2005 2SD636 (Q,R,S)
Q2006 2SD636 (Q,R,S)
Q2007 2SD636(Q,R,S)
Q2008 2SD636 (Q,R,S)
Q2009 2SB641 (Q,R,S)
Q2010 2SD946 (P,Q,R)
Q2014 2SD636 (Q,R,S) AMP
Q2015 2SD636 (Q,R,S) CAP. ON/OFF
Q2016 2SD636 (Q,R,S) INV.
Q2017 2SD889(Q,R,S) or 2SD1206 BUFFER
Q2018 2SD1265(O,P,Q) MOTOR DRIVE
Q2019 2SB643(Q,R,S) or 2SA719 (BRAKE)
Q2020 2SD892 (Q,R) or 2SD1205 (Q,R) CAP REVERSE:ON
Q2021 2SD636 (Q,R,S) (SERCH OFF)
Q2022 2SB641 (Q,R,S) AMP
Q2027 2SD636 (Q,R,S) INV
QR2001 DTC144A
RY2001 VSY2029
BUFF. OSC
CYL. FREE RUN
CAP. FREE RUN
ERROR VOLTAGE FILTER CIRCUIT
TRACKING VR.
TRACKING FIX
V.LOCK
NOIS POS.
JSB
JPB-1 1 EXCEPT REC 12V
JPB-2 2 EXCEPT REC Ⓛ
JPB-3 3 REF. 50Hz
JPB-4 4 EE Ⓛ
TO SYSTEM CONTROL
EE Ⓛ
EXCEPT REC Ⓛ
EXCEPT REC 12V
CYL LOCK
CAP REVERSE
DELAYED REC 12V
REC 12V
L.P. Ⓗ
GND
TO C.T.L HEAD
P4011-2 1 CTL HEAD
P4011-1 2 GND
P2001
STILL Ⓛ
SEARCH Ⓛ
UNREG 24V
FRAME ADVANCE Ⓗ
CAP. ON
BP1501
P1501-5 4 CAP FG
P1501-9 5 LED ⊖
P1501-4 2 CAP MOTOR ⊖
P1501-3 3 CAP MOTOR ⊕
P1501-2 1 GND
P001 TO CYLINDER MOTOR
1 PG SIG
2
3 MAIN 3
4 MAIN 2
5 MAIN 1
6 M-COM
7 P3
8 P2
9 P1
10 P-COM
11 GND
12 OSC
+12V
UNREG 18V
CYL.ON
FF Ⓛ
TO SYSTEM CONTROL
J5A
1 H.SW PULSE JPA-1
2 DOC IN JPA-2
3 DUMMY.V JPA-3
4 VSS JPA-4
1 2 3 4 5 6 7 8 9 10 11 12

CAPSTAN SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

CYLINDER SERVO SPEED LOOP

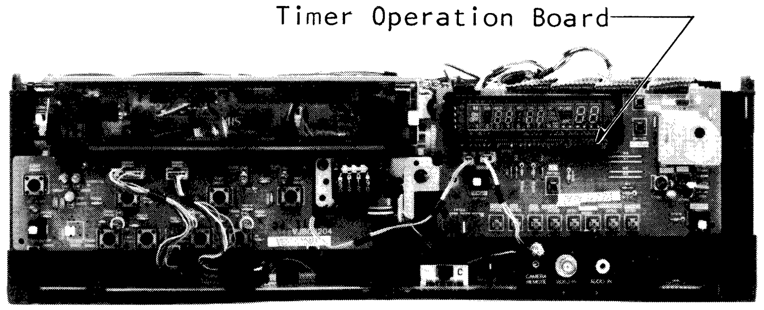
CYLINDER SERVO PHASE LOOP

Servo Schematic	
Q2005	F-3
Q2006	F-2
Q2007	E-6
Q2008	E-6
Q2009	F-8
Q2010	E-7
Q2014	A-5
Q2015	A-5
Q2016	C-5
Q2017	B-6
Q2018	B-7
Q2019	A-7
Q2020	A-8
Q2021	C-6
Q2022	C-11
Q2027	E-7
QR2001	E-2
IC2001	F-4
IC2002	E-10
IC2003	C-3
IC2004	C-8

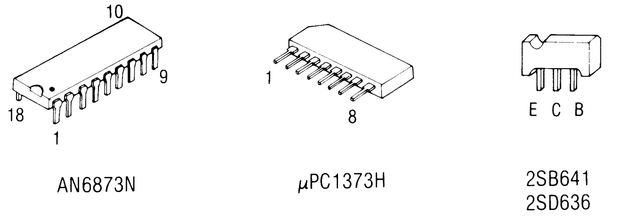
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

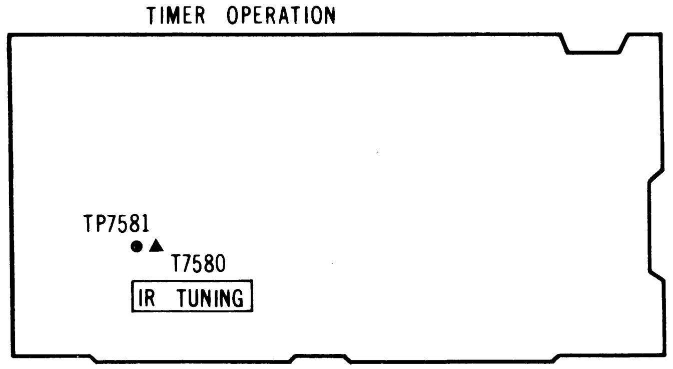
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

TIMER OPERATION BOARD (VEP07178A)

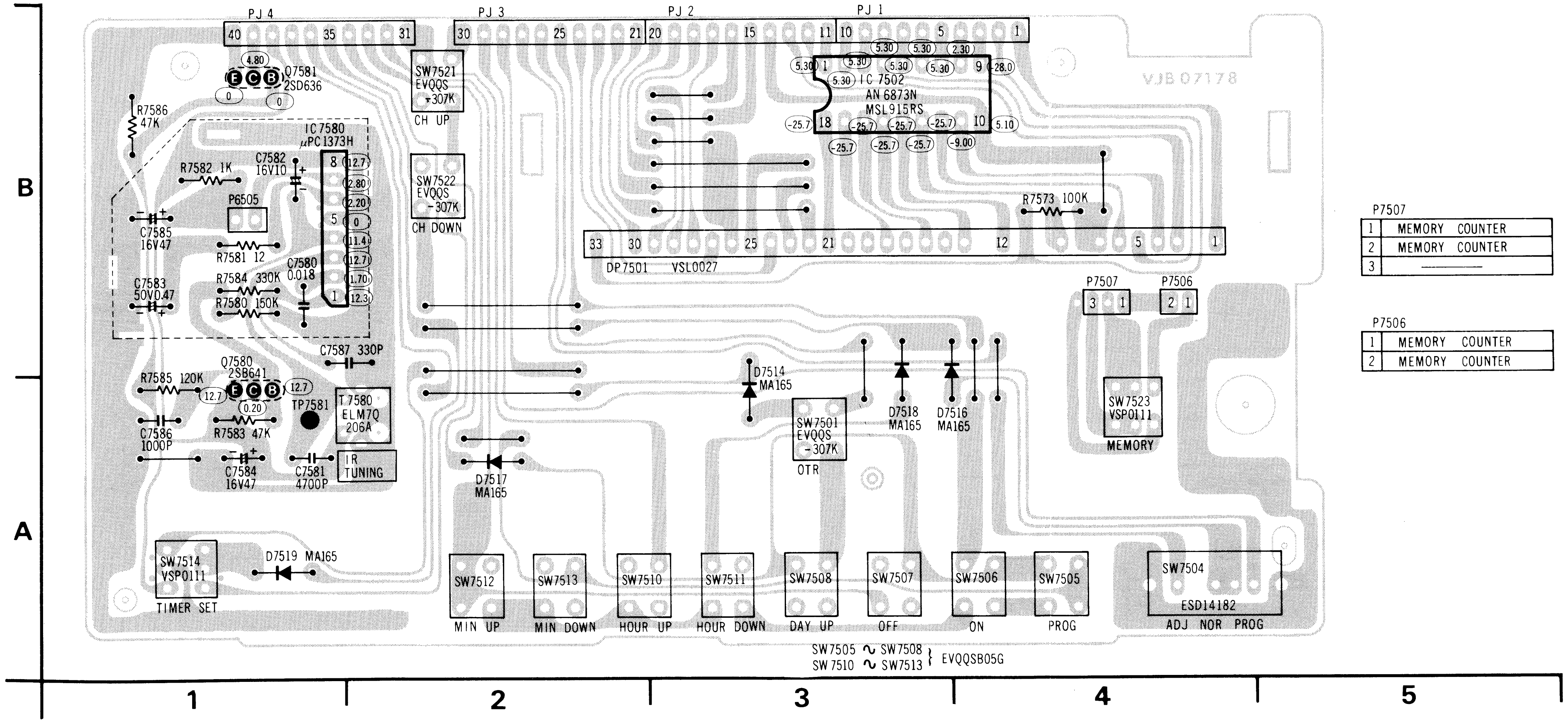

Timer Operation Board

TIMER OPERATION BOARD ICs & TRANSISTORs INFORMATION


10
9
18
1
AN6873N
1
8
μPC1373H
E C B
2SB641
2SD636


TIMER OPERATION
TP7581
T7580
IR TUNING

Timer Operation C.B.A.	
Q7580	A-1
Q7581	B-1
IC7502	B-3
IC7580	B-1


PJ 4
PJ 3
PJ 2
PJ 1
40
35
31
30
25
21
20
15
11
10
5
1
Q7581
2SD636
R7586
47K
IC7580
μPC1373H
R7582 1K
C7582
16V10
P6505
C7585
16V47
R7581 12
R7584 330K
C7580
0.018
R7580 150K
C7583
50V0.47
C7587 330P
R7585 120K
Q7580
2SB641
TP7581
T7580
ELM7Q
206A
C7586
1000P
R7583 47K
C7584
16V47
C7581
4700P
IR TUNING
SW7521
EVQQS
-307K
CH UP
SW7522
EVQQS
-307K
CH DOWN
IC 7502
AN 6873N
MSL915RS
VJB07178
R7573 100K
DP7501 VSL0027
33
12
P7507
P7506
D7514
MA165
SW7501
EVQQS
-307K
OTR
D7518
MA165
D7516
MA165
SW7523
VSP0111
MEMORY
D7517
MA165
SW7514
VSP0111
TIMER SET
D7519 MA165
SW7512
MIN UP
SW7513
MIN DOWN
SW7510
HOUR UP
SW7511
HOUR DOWN
SW7508
DAY UP
SW7507
OFF
SW7506
ON
SW7505
PROG
SW7504
ESD14182
ADJ NOR PROG
SW7505 ∿ SW7508
SW7510 ∿ SW7513 } EVQQSB05G
A
B
1
2
3
4
5

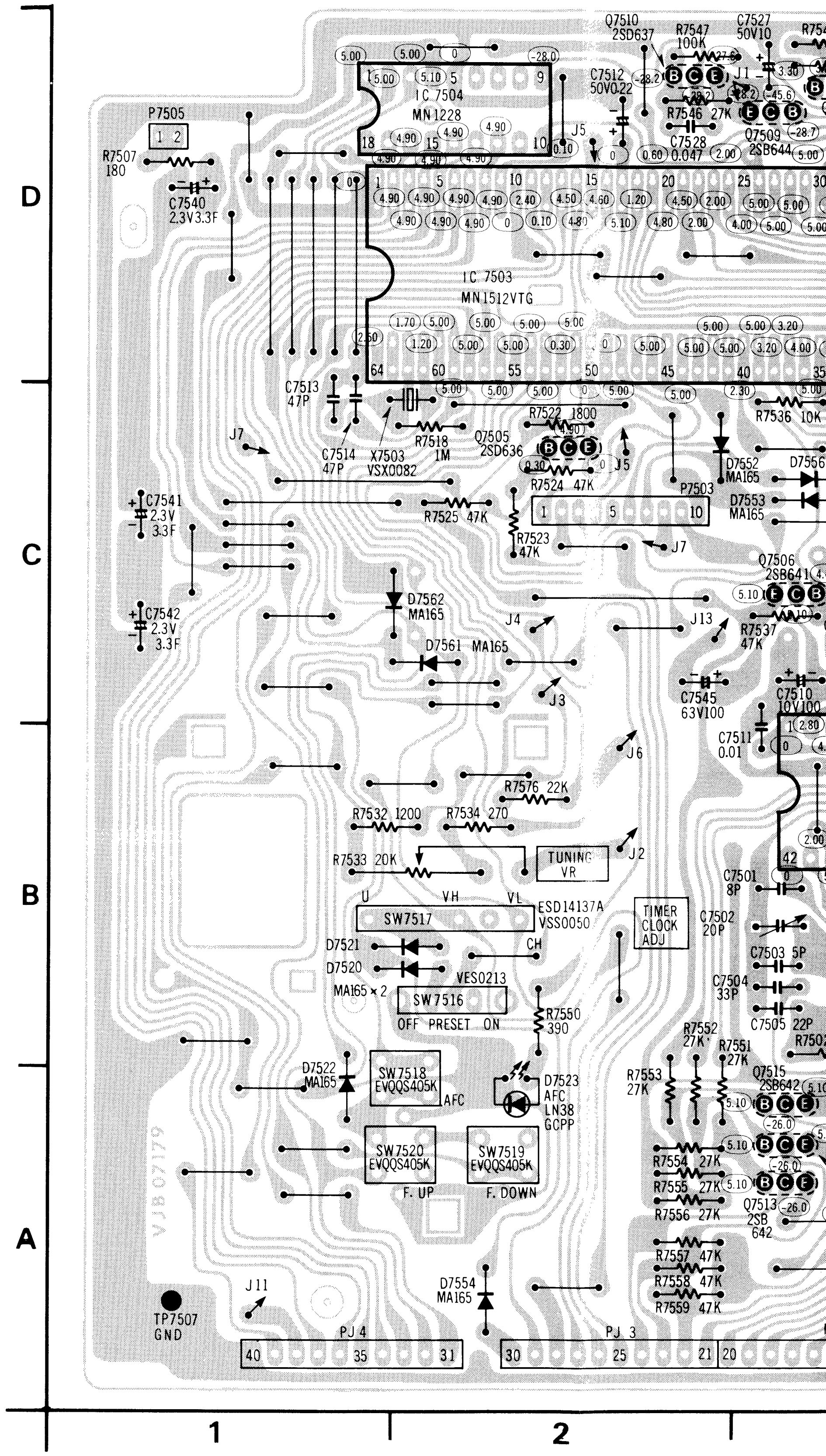
P7507

1	MEMORY COUNTER
2	MEMORY COUNTER
3	————

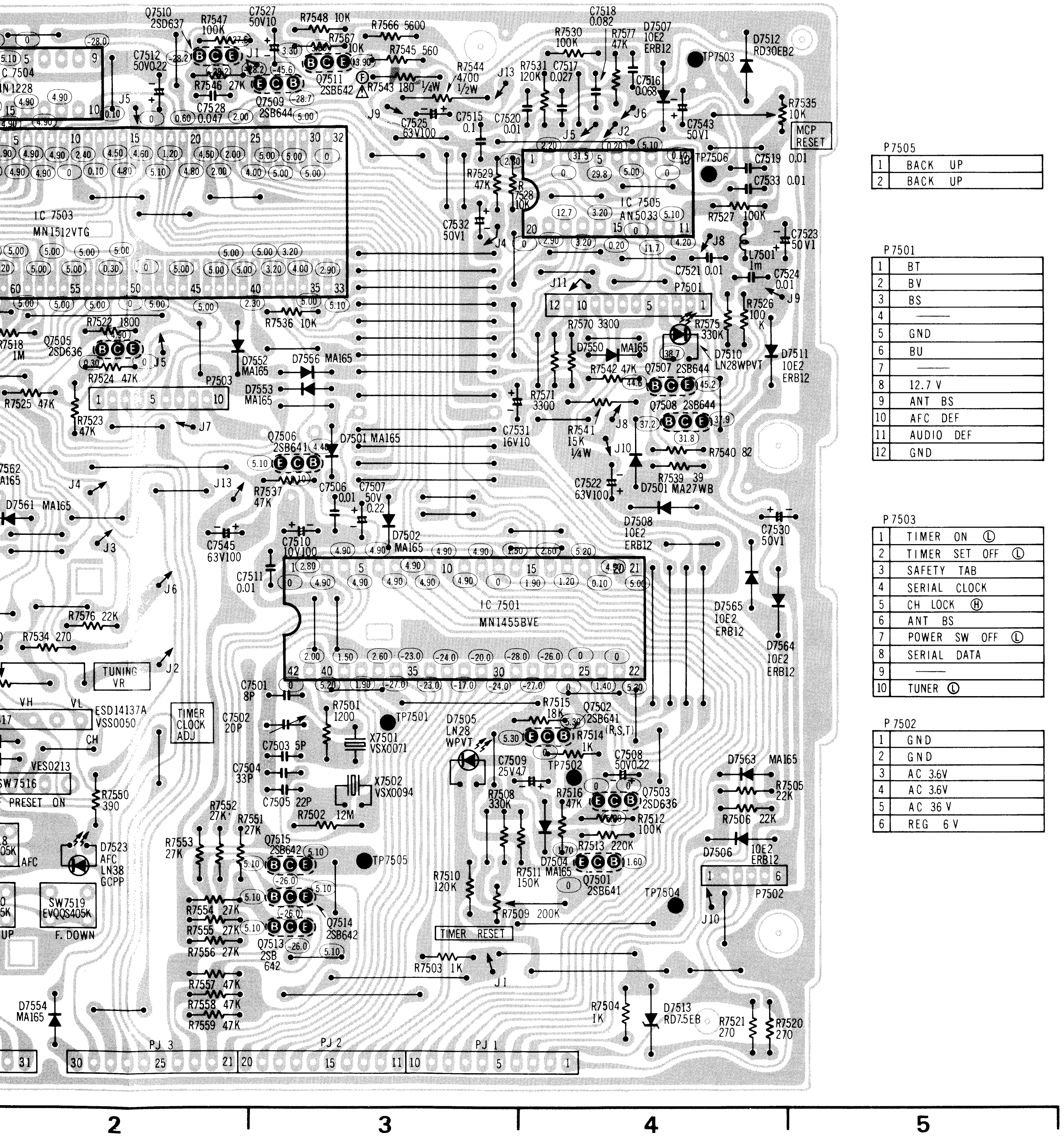
P7506

1	MEMORY COUNTER
2	MEMORY COUNTER

TIMER DECODER BOARD (VEP07179A)


Q7510
2SD637
R7547
100K
C7527
50V10
IC 7504
MN1228
C7512
50V022
R7546 27K
C7528
0.047
Q7509
2SB644
P7505
R7507
180
C7540
2.3V3.3F
IC 7503
MN1512VTG
C7513
47P
C7514
47P
X7503
VSX0082
R7518
1M
Q7505
2SD636
R7522 1800
R7524 47K
R7536 10K
D7552
MA165
D7553
MA165
D7556
P7503
C7541
2.3V
3.3F
R7525 47K
R7523
47K
J7
J5
Q7506
2SB641
C7542
2.3V
3.3F
D7562
MA165
D7561 MA165
J4
J13
R7537
47K
J3
C7545
63V100
C7510
10V100
C7511
0.01
J6
R7576 22K
R7532 1200
R7534 270
R7533 20K
TUNING VR
J2
SW7517
ESD14137A
VSS0050
U VH VL CH
TIMER CLOCK ADJ
C7501
8P
C7502
20P
C7503 5P
C7504
33P
C7505 22P
D7521
D7520
MA165×2
VES0213
SW7516
OFF PRESET ON
R7550
390
R7552
27K
R7551
27K
D7522
MA165
SW7518
EVQQS405K
AFC
D7523
AFC
LN38
GCPP
R7553
27K
Q7515
2SB642
SW7520
EVQQS405K
F. UP
SW7519
EVQQS405K
F. DOWN
R7554 27K
R7555 27K
R7556 27K
Q7513
2SB
642
R7557 47K
R7558 47K
R7559 47K
D7554
MA165
J11
TP7507
GND
VJB07179
PJ 4
PJ 3
40
35
31
30
25
21
20
A
B
C
D
1
2

OARD (VEP07179A)


Q7510 2SD637
R7547 100K
C7527 50V10
R7548 10K
R7566 5600
C7518 0.082
D7507 10E2 ERB12
D7512 RD30EB2
TP7503
C7512 50V0.22
J1
R7567 10K
R7545 560
R7530 100K
R7577 47K
R7544 4700 1/2W
J13
R7531 120K
C7517 0.027
C7516 0.068
C 7504
MN1228
J5
R7546 27K
C7528 0.047
Q7509 2SB644
Q7511 2SB642
R7543 180 1/4W
C7525 63V100
J9
C7515 0.1
C7520 0.01
J6
C7543 50V1
R7535 10K
MCP RESET
TP7506
C7519 0.01
C7533 0.01
IC 7503
MN1512VTG
R7529 47K
R7528 10K
IC 7505
AN5033
R7527 100K
C7523 50V1
C7532 50V1
J4
J8
L7501 1m
C7521 0.01
C7524 0.01
J9
J11
P7501
R7526 100K
R7536 10K
R7570 3300
R7575 330K
R7522 1800
R7518 1M
Q7505 2SD636
J5
D7550
MA165
D7510 LN28WPVT
D7511 10E2 ERB12
D7552 MA165
D7556 MA165
R7542 47K
Q7507 2SB644
R7524 47K
P7503
D7553 MA165
R7525 47K
R7523 47K
J7
R7571 3300
C7531 16V10
R7541 15K 1/4W
Q7508 2SB644
J8
J10
R7540 82
Q7506 2SB641
D7501 MA165
R7539 39
D7501 MA27WB
D7561 MA165
J4
J13
R7537 47K
C7506 0.01
C7507 50V 0.22
C7522 63V100
D7508 10E2 ERB12
C7530 50V1
J3
C7545 63V100
C7510 10V100
D7502 MA165
C7511 0.01
J6
IC 7501
MN1455BVE
D7565 10E2 ERB12
D7564 10E2 ERB12
R7576 22K
R7534 270
TUNING VR
J2
C7501 8P
TIMER CLOCK ADJ
C7502 20P
R7501 1200
TP7501
X7501 VSX0071
D7505 LN28 WPVT
R7515 18K
Q7502 2SB641
R7514 1K
VH
VL
ESD14137A VSS0050
CH
VES0213
SW7516
PRESET ON
C7503 5P
C7504 33P
X7502 VSX0094
C7509 25V47
TP7502
C7508 50V0.22
D7563 MA165
R7505 22K
R7550 390
R7552 27K
R7551 27K
C7505 22P
R7502 12M
R7508 330K
R7516 47K
Q7503 2SD636
R7512 100K
R7506 22K
D7523 AFC LN38 GCPP
AFC
R7553 27K
Q7515 2SB642
TP7505
R7513 220K
D7506
10E2 ERB12
R7510 120K
R7511 150K
D7504 MA165
Q7501 2SB641
P7502
SW7519 EVQQS405K
F. DOWN
R7554 27K
R7555 27K
R7556 27K
Q7514 2SB642
Q7513 2SB 642
TP7504
R7509 200K
J10
TIMER RESET
R7503 1K
J1
R7557 47K
R7558 47K
R7559 47K
D7554 MA165
R7504 1K
D7513 RD7.5EB
R7521 270
R7520 270
PJ 3
PJ 2
PJ 1
2
3
4
5

P7505

1	BACK UP
2	BACK UP

P7501

1	BT
2	BV
3	BS
4	———
5	GND
6	BU
7	———
8	12.7 V
9	ANT BS
10	AFC DEF
11	AUDIO DEF
12	GND

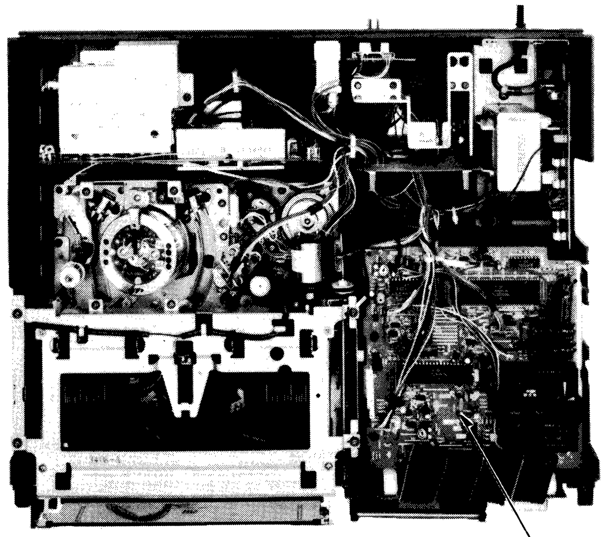
P7503

1	TIMER ON Ⓛ
2	TIMER SET OFF Ⓛ
3	SAFETY TAB
4	SERIAL CLOCK
5	CH LOCK Ⓗ
6	ANT BS
7	POWER SW OFF Ⓛ
8	SERIAL DATA
9	———
10	TUNER Ⓛ

P7502

1	GND
2	GND
3	AC 3.6V
4	AC 3.6V
5	AC 36V
6	REG 6V

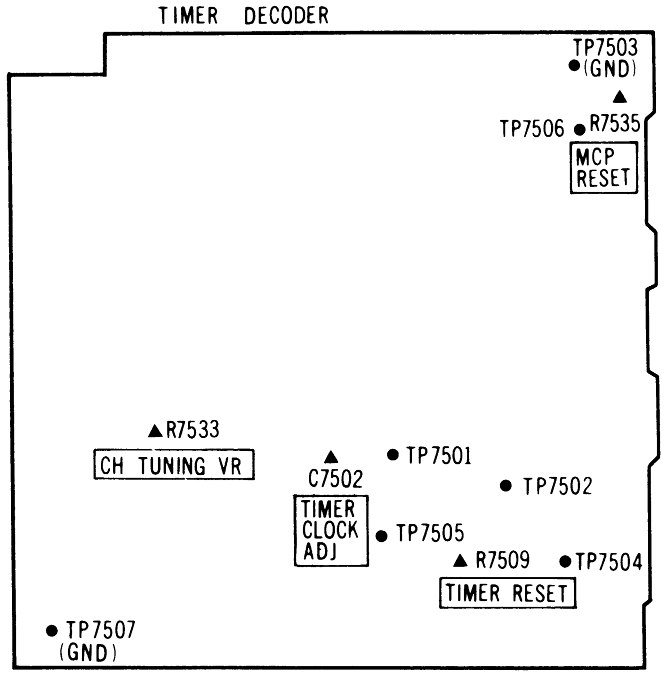
Timer Decoder C.B.A.	
Q7501	A-4
Q7502	B-4
Q7503	B-4
Q7505	C-2
Q7506	C-3
Q7507	C-4
Q7508	C-4
Q7509	D-3
Q7510	D-2
Q7511	D-3
Q7513	A-3
Q7514	A-3
Q7515	A-3
IC7501	B-3
IC7503	D-2
IC7504	D-2
IC7505	D-4



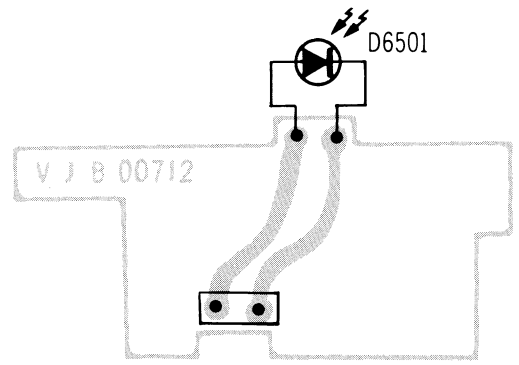
Timer Decoder Board

Timer Operation Schematic	
Q7580	H-6
Q7581	G-5
IC7502	F-1
IC7580	G-7

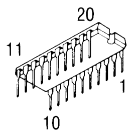
Timer Decoder Schematic	
Q7501	B-1
Q7502	A-1
Q7503	A-2
Q7505	C-7
Q7506	F-10
Q7507	E-10
Q7508	D-10
Q7509	E-11
Q7510	E-10
Q7511	E-10
Q7513	D-3
Q7514	D-3
Q7515	E-3
IC7501	C-4
IC7503	D-7
IC7504	E-9
IC7505	B-10


TIMER DECODER
TP7503
(GND)
TP7506
R7535
MCP RESET
R7533
CH TUNING VR
C7502
TIMER CLOCK ADJ
TP7501
TP7502
TP7505
R7509
TP7504
TIMER RESET
TP7507
(GND)

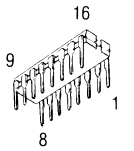
IR REMOTE CONTROL RECEIVER P.C.B. (VJB00712)


D6501
VJB00712

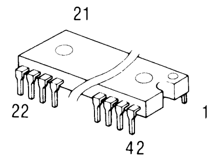
TIMER DECODER BOARD ICs & TRANSISTORs INFORMATION



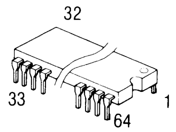
AN5033



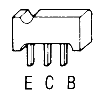
MN1228



MN1455BVE



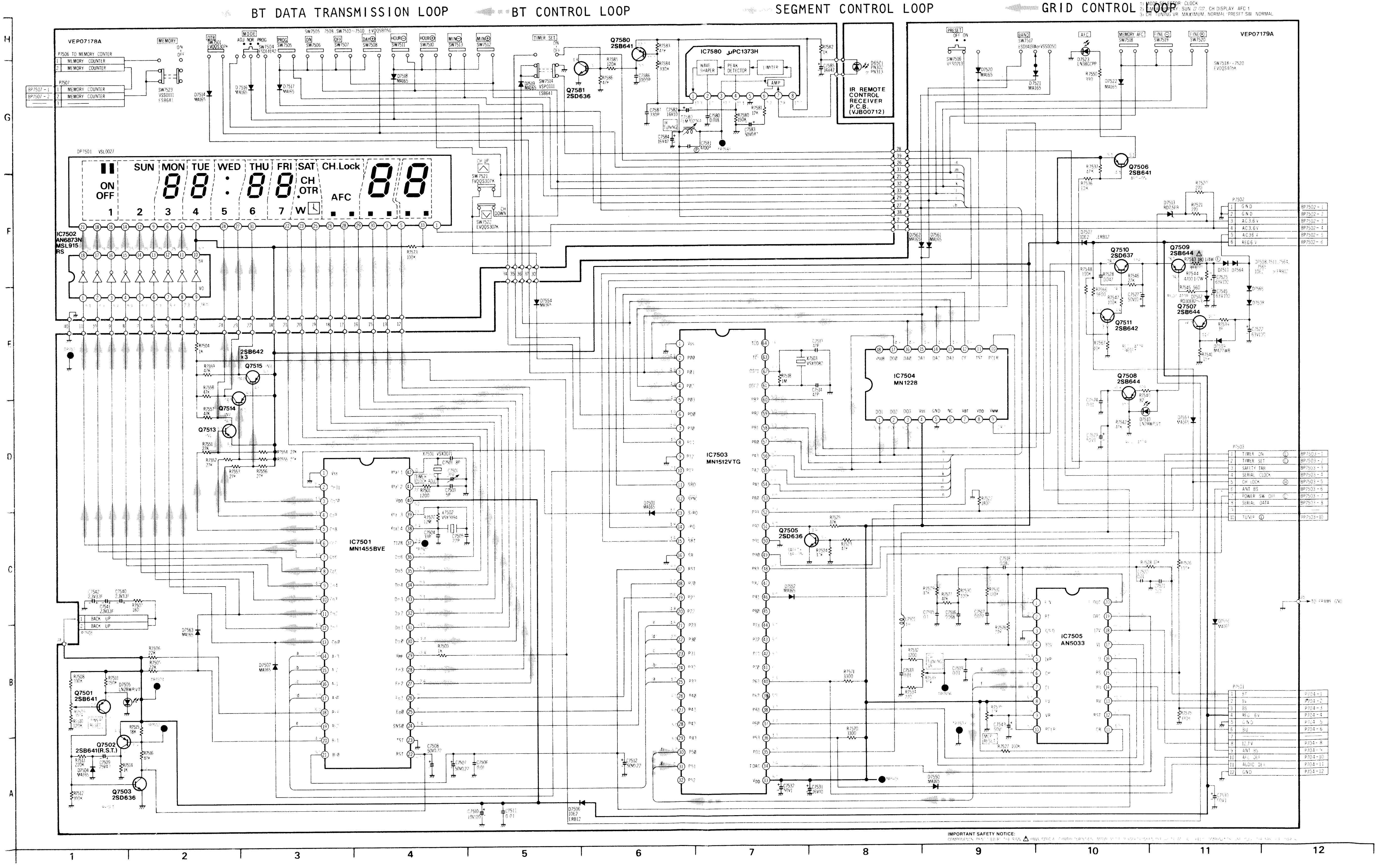
MN1512VTG



2SB641
2SB642
2SB644
2SD636
2SD637

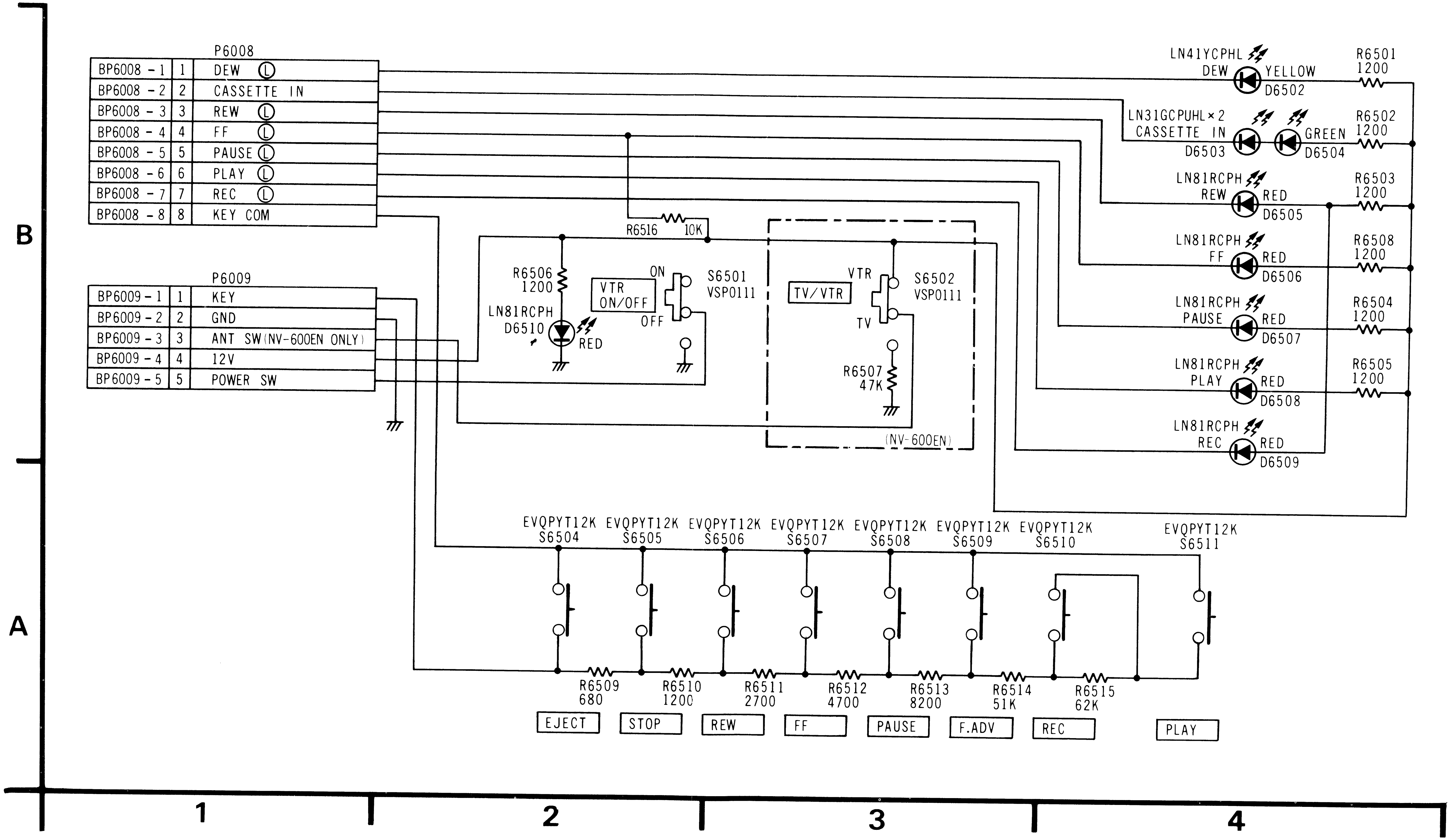
TIMER OPERATION & TIMER DECODER SCHEMATIC DIAGRAM

NOTE THE MEASUREMENT MODES OF THE DC VOLTAGE ON THIS DIAGRAM ARE FOLLOWING CONDITIONS.
1) MODE SELECTOR: CLOCK
2) TIMER DISPLAY: SUN 0:00, CH DISPLAY AFC 1
3) CH TUNING VR MAXIMUM, NORMAL/PRESET SW NORMAL

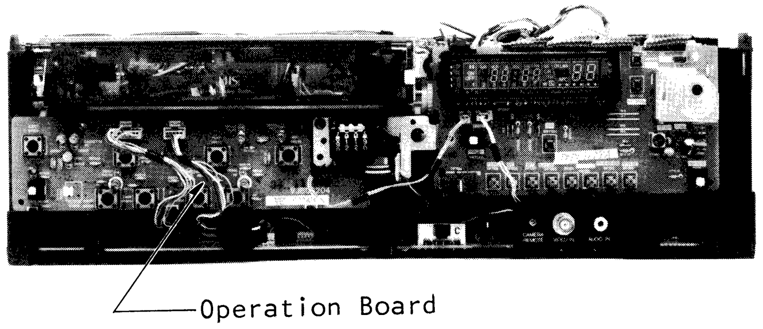

BT DATA TRANSMISSION LOOP
BT CONTROL LOOP
SEGMENT CONTROL LOOP
GRID CONTROL LOOP
VEP07178A
VEP07179A
MEMORY
MODE
TIMER SET
PRESET
BAND
AFC
MEMORY AFC
FINE ⊖
FINE ⊕
SW7518 ~ 7520 EVQQS405K
DP7501 VSL0027
SUN MON TUE WED THU FRI SAT CH.Lock
ON OFF
CH OTR
AFC
IC7502 AN6873N MSL915 RS
IC7501 MN1455BVE
IC7503 MN1512VTG
IC7504 MN1228
IC7505 AN5033
IC7580 μPC1373H
WAVE SHAPER
PEAK DETECTOR
LIMITER
AMP
IR REMOTE CONTROL RECEIVER P.C.B. (VJB00712)
D6501 PN313
Q7580 2SB641
Q7581 2SD636
Q7506 2SB641
Q7510 2SD637
Q7509 2SB644
Q7511 2SB642
Q7507 2SB644
Q7508 2SB644
Q7505 2SD636
Q7515
Q7514
Q7513
2SB642 ×3
Q7501 2SB641
Q7502 2SB641(R.S.T.)
Q7503 2SD636
CH UP
CH DOWN
P7506 TO MEMORY COUNTER
P7507
MEMORY COUNTER
BACK UP
P7502
GND
AC 3.6V
AC 36V
REG 6V
P7503
TIMER ON
TIMER SET
SAFETY TAB
SERIAL CLOCK
CH LOCK
ANT BS
POWER SW OFF
SERIAL DATA
TUNER ON
P7501
BT
BS
BS
REG 6V
GND
BU
12.7V
ANT BS
AFC OFF
AUDIO OFF
GND
TO FRAME GND
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SPECIFIED PARTS.

OPERATION SCHEMATIC DIAGRAM


P6008
BP6008 - 1 | 1 | DEW Ⓛ
BP6008 - 2 | 2 | CASSETTE IN
BP6008 - 3 | 3 | REW Ⓛ
BP6008 - 4 | 4 | FF Ⓛ
BP6008 - 5 | 5 | PAUSE Ⓛ
BP6008 - 6 | 6 | PLAY Ⓛ
BP6008 - 7 | 7 | REC Ⓛ
BP6008 - 8 | 8 | KEY COM
P6009
BP6009 - 1 | 1 | KEY
BP6009 - 2 | 2 | GND
BP6009 - 3 | 3 | ANT SW (NV-600EN ONLY)
BP6009 - 4 | 4 | 12V
BP6009 - 5 | 5 | POWER SW
R6516 10K
R6506 1200
LN81RCPH
D6510
RED
VTR ON/OFF
ON
OFF
S6501
VSP0111
TV/VTR
VTR
TV
S6502
VSP0111
R6507 47K
(NV-600EN)
LN41YCPHL
DEW
YELLOW
D6502
R6501 1200
LN31GCPUHL × 2
CASSETTE IN
GREEN
D6503
D6504
R6502 1200
LN81RCPH
REW
RED
D6505
R6503 1200
LN81RCPH
FF
RED
D6506
R6508 1200
LN81RCPH
PAUSE
RED
D6507
R6504 1200
LN81RCPH
PLAY
RED
D6508
R6505 1200
LN81RCPH
REC
RED
D6509
EVQPYT12K S6504
EVQPYT12K S6505
EVQPYT12K S6506
EVQPYT12K S6507
EVQPYT12K S6508
EVQPYT12K S6509
EVQPYT12K S6510
EVQPYT12K S6511
R6509 680
R6510 1200
R6511 2700
R6512 4700
R6513 8200
R6514 51K
R6515 62K
EJECT
STOP
REW
FF
PAUSE
F.ADV
REC
PLAY
B
A
1
2
3
4

OPERATION BOARD (VEP06204A: NV-600EN/VEP06204B: NV-600E)

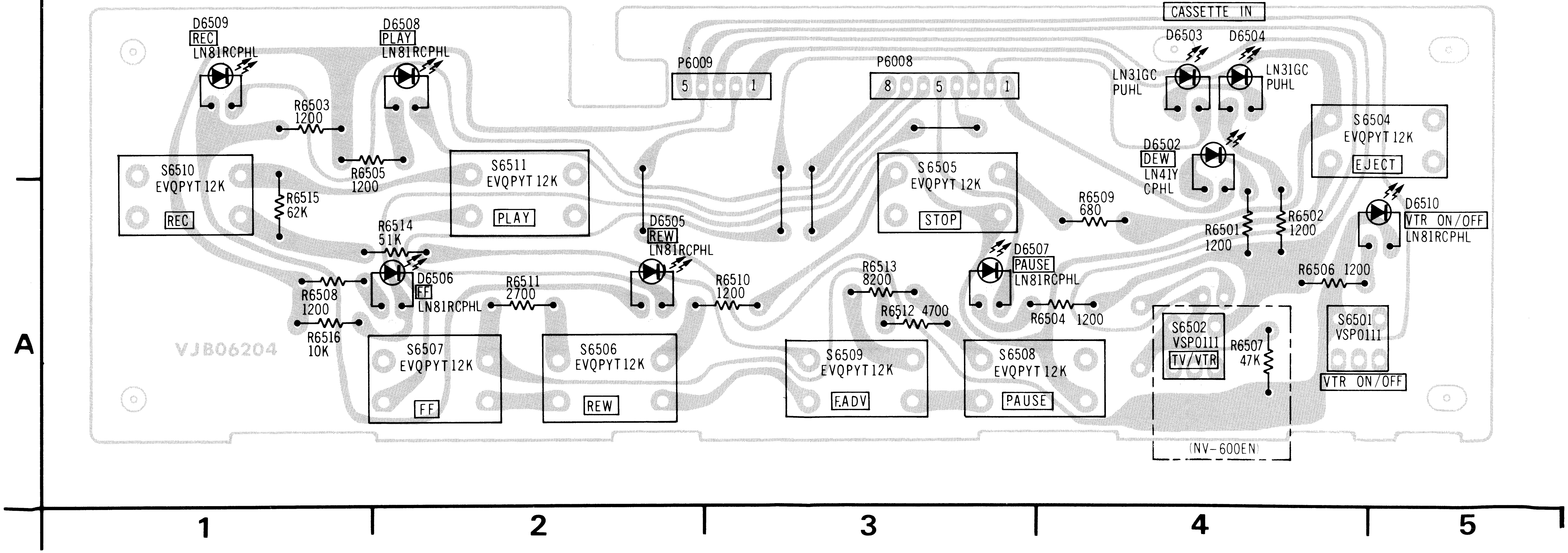

Operation Board

P 6009

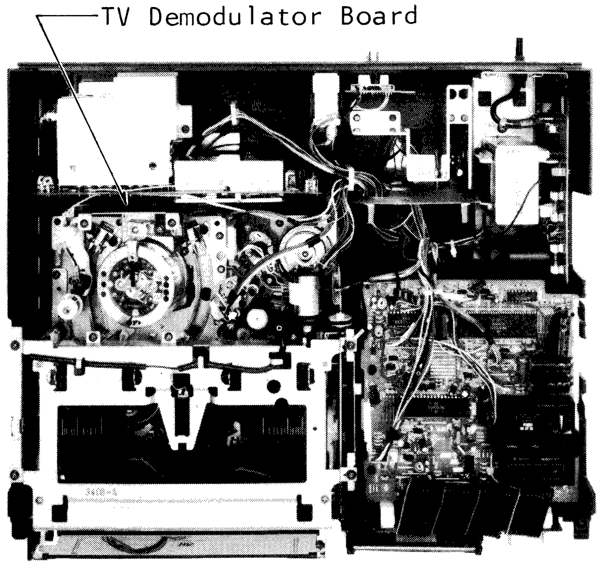
1	KEY
2	GND
3	ANT SW
4	12 V
5	POWER SW

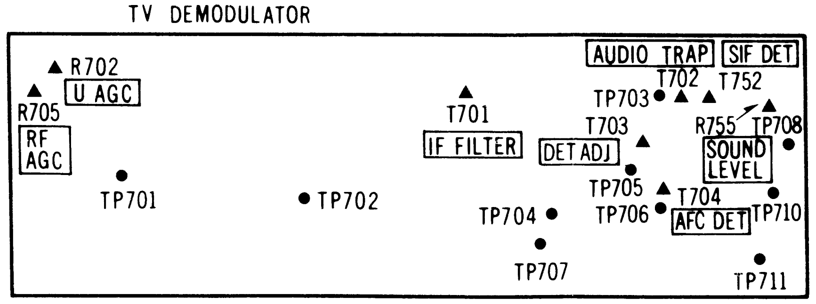
P 6008

	DEW Ⓛ
2	CASSETTE IN
3	REW Ⓛ
4	F F Ⓛ
5	PAUSE Ⓛ
6	PLAY Ⓛ
7	REC Ⓛ
8	KEY COM


B
A
1
2
3
4
5
D6509
REC
LN81RCPHL
D6508
PLAY
LN81RCPHL
R6503
1200
R6505
1200
S6510
EVQPYT 12K
REC
R6515
62K
S6511
EVQPYT 12K
PLAY
P6009
5
1
P6008
8
5
1
CASSETTE IN
D6503
D6504
LN31GC
PUHL
LN31GC
PUHL
S6504
EVQPYT 12K
EJECT
D6502
DEW
LN41Y
CPHL
S6505
EVQPYT 12K
STOP
R6509
680
R6501
1200
R6502
1200
D6510
VTR ON/OFF
LN81RCPHL
R6514
51K
D6505
REW
LN81RCPHL
D6506
FF
LN81RCPHL
R6508
1200
R6516
10K
R6511
2700
R6510
1200
R6513
8200
R6512 4700
D6507
PAUSE
LN81RCPHL
R6504 1200
R6506 1200
S6502
VSP0111
TV/VTR
R6507
47K
S6501
VSP0111
VTR ON/OFF
(NV-600EN)
VJB06204
S6507
EVQPYT 12K
FF
S6506
EVQPYT 12K
REW
S6509
EVQPYT 12K
F.ADV
S6508
EVQPYT 12K
PAUSE

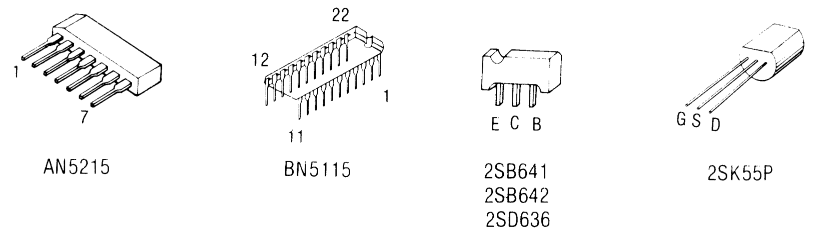
TV DEMODULATOR BOARD (VEP07177A: NV-600EN/VEP07177B: NV-600E)

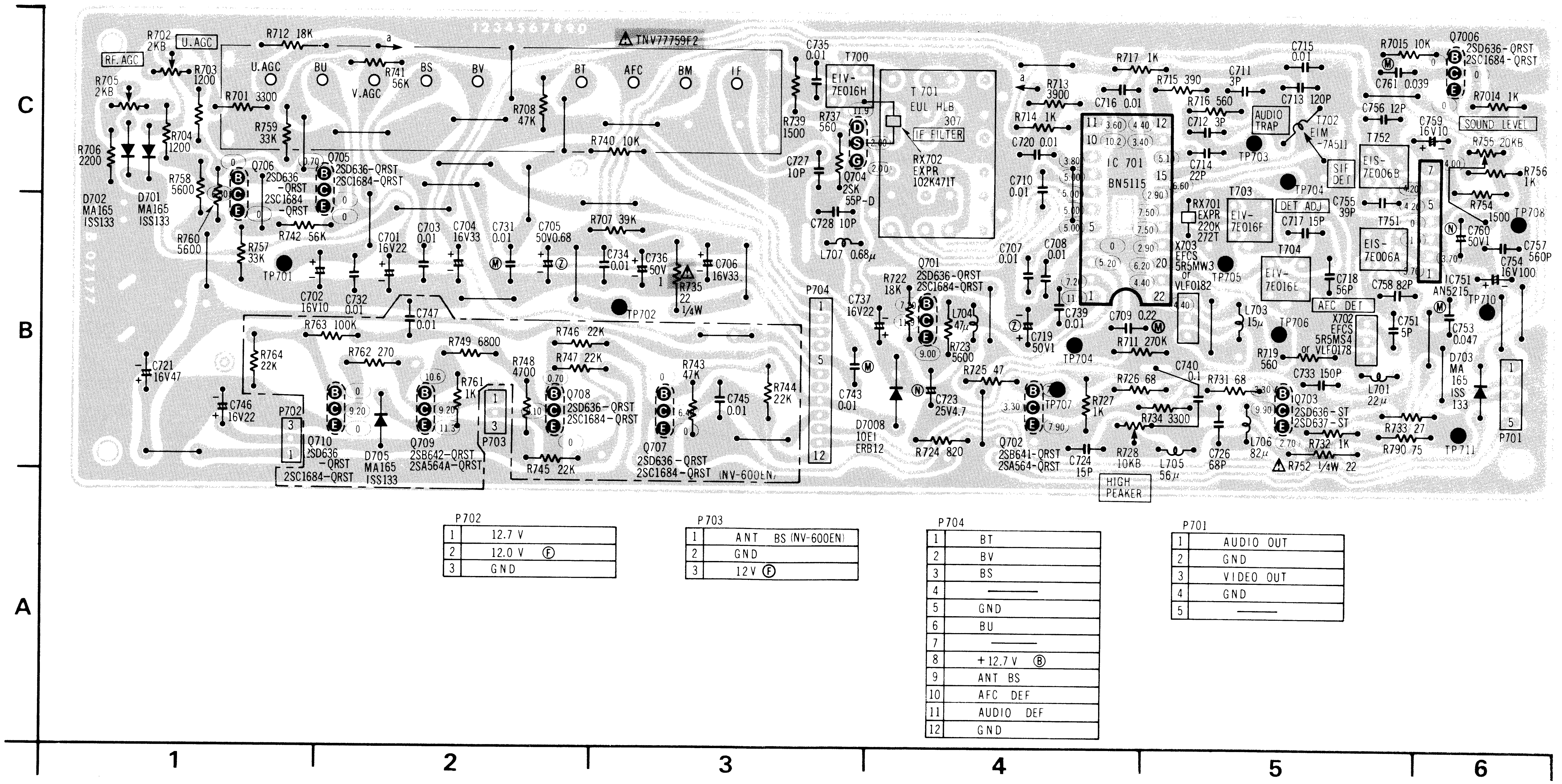

TV Demodulator Board


TV DEMODULATOR
R702
U AGC
R705
RF AGC
TP701
TP702
T701
IF FILTER
DET ADJ
T703
TP703
T702
T752
AUDIO TRAP
SIF DET
R755
TP708
SOUND LEVEL
TP704
TP705
T704
TP706
AFC DET
TP710
TP707
TP711

TV Demodulator C.B.A.	
Q701	B-4
Q702	B-4
Q703	B-5
Q704	C-3
Q705	C-2
Q706	C-1
Q707	B-3
Q708	B-2
Q709	B-2
Q710	B-2
Q7006	C-6
IC701	C-4
IC751	B-5

TV DEMODULATOR BOARD ICs & TRANSISTORs INFORMATION


1
7
AN5215
22
12
1
11
BN5115
E C B
2SB641
2SB642
2SD636
G S D
2SK55P


C
B
A
1
2
3
4
5
6
R702 2KB
U.AGC
RF.AGC
R705 2KB
R703 1200
R712 18K
U.AGC
BU
V.AGC
R741 56K
BS
BV
BT
AFC
BM
IF
INV77759F2
R701 3300
R704 1200
R706 2200
R708 47K
R759 33K
R740 10K
D702 MA165 ISS133
D701 MA165 ISS133
R758 5600
Q706 2SD636-QRST 2SC1684-QRST
Q705 2SD636-QRST 2SC1684-QRST
R742 56K
R760 5600
R757 33K
TP701
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
R707 39K
C701 16V22
C734 0.01
C736 50V1
R735 22 1/4W
C706 16V33
TP702
C702 16V10
C732 0.01
C747 0.01
R763 100K
R749 6800
R746 22K
R747 22K
R762 270
R748 4700
R743 47K
R744 22K
C745 0.01
R764 22K
C721 16V47
C746 16V22
R761 1K
Q708 2SD636-QRST 2SC1684-QRST
P702
Q710 2SD636-QRST 2SC1684-QRST
D705 MA165 ISS133
Q709 2SB642-QRST 2SA564A-QRST
P703
R745 22K
Q707 2SD636-QRST 2SC1684-QRST (NV-600EN)
C735 0.01
T700 EIV-7E016H
R739 1500
R737 560
C727 10P
Q704 2SK55P-D
C728 10P
L707 0.68μ
T701 EUL HLB 307
IF FILTER
RX702 EXPR 102K471T
P704
R722 18K
C737 16V22
Q701 2SD636-QRST 2SC1684-QRST
L704 47μ
R723 5600
C743 0.01
D7008 10E1 ERB12
C723 25V4.7
R724 820
R725 47
R713 3900
R714 1K
C716 0.01
C720 0.01
C710 0.01
C707 0.01
C708 0.01
C739 0.01
C719 50V1
TP704
IC701 BN5115
R717 1K
R715 390
C711 3P
C715 0.01
R716 560
C712 3P
C713 120P
AUDIO TRAP
TP703
C714 22P
T702 EIM-7A511
SIF DET
RX701 EXPR 220K 272T
X703 EFCS 5R5MW3 or VLF0182
TP705
T703 EIV-7E016F
DET ADJ
C717 15P
TP704
T704 EIV-7E016E
C718 56P
AFC DET
C709 0.22
R711 270K
L703 15μ
TP706
X702 EFCS 5R5MS4 or VLF0178
R719 560
C740 0.1
R726 68
R727 1K
R734 3300
TP707
Q702 2SB641-QRST 2SA564-QRST
C724 15P
R728 10KB
L705 56μ
HIGH PEAKER
C726 68P
R731 68
C733 150P
Q703 2SD636-ST 2SD637-ST
L706 82μ
R732 1K
R752 1/4W 22
L701 22μ
R733 27
R790 75
TP711
R7015 10K
Q7006 2SD636-QRST 2SC1684-QRST
C761 0.039
R7014 1K
C756 12P
T752 EIS-7E006B
C759 16V10
SOUND LEVEL
R755 20KB
R756 1K
R754 1500
C755 39P
T751 EIS-7E006A
TP708
C760 50V1
C757 560P
C754 16V100
C758 82P
IC751 AN5215
TP710
C751 5P
C753 0.047
D703 MA165 ISS133
P701

P702

1	12.7 V
2	12.0 V Ⓕ
3	GND

P703

1	ANT BS (NV-600EN)
2	GND
3	12V Ⓕ

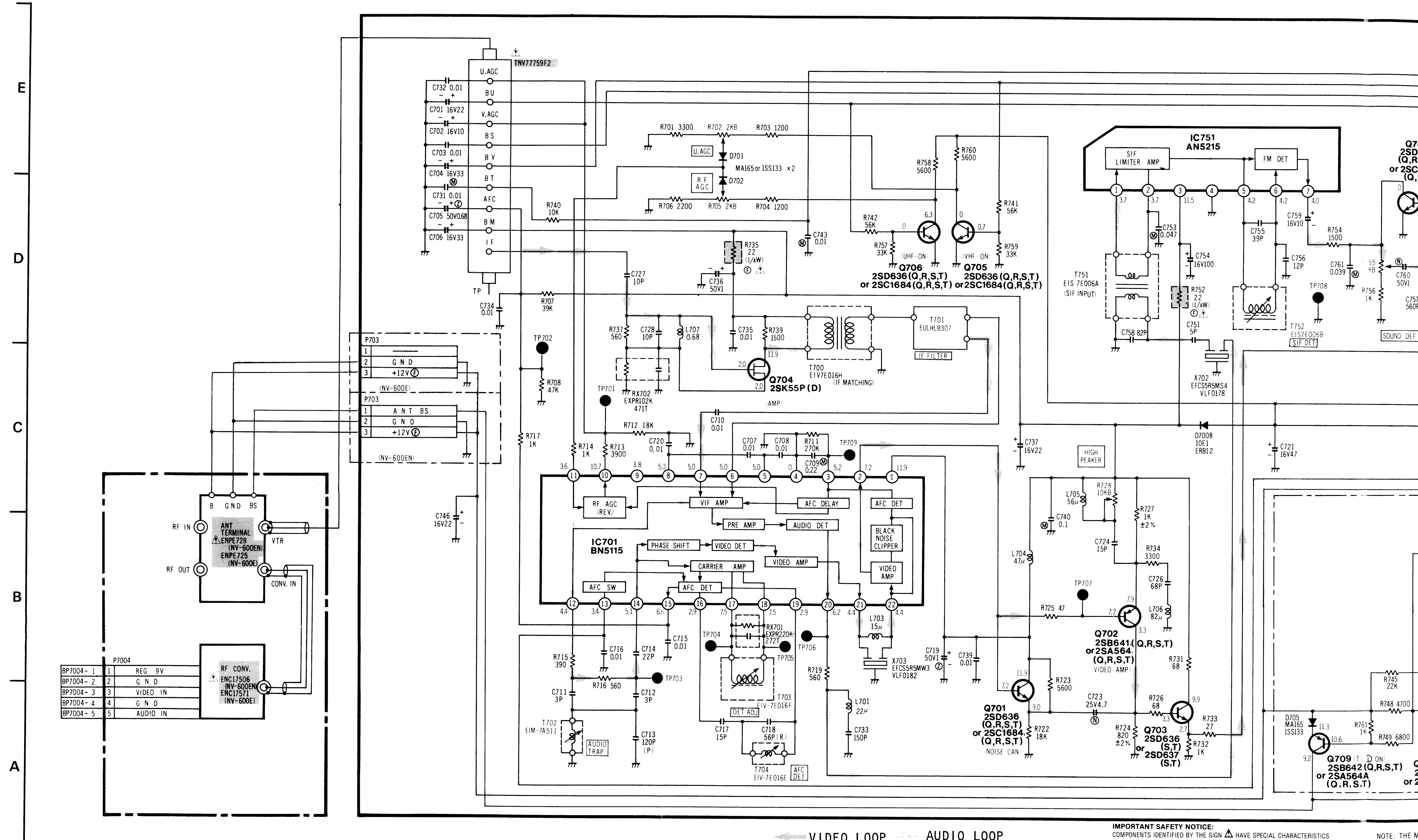
P704

1	BT
2	BV
3	BS
4	———
5	GND
6	BU
7	———
8	+12.7 V Ⓑ
9	ANT BS
10	AFC DEF
11	AUDIO DEF
12	GND

P701

1	AUDIO OUT
2	GND
3	VIDEO OUT
4	GND
5	———

TV DEMODULATOR SCHEMATIC DIAGRAM

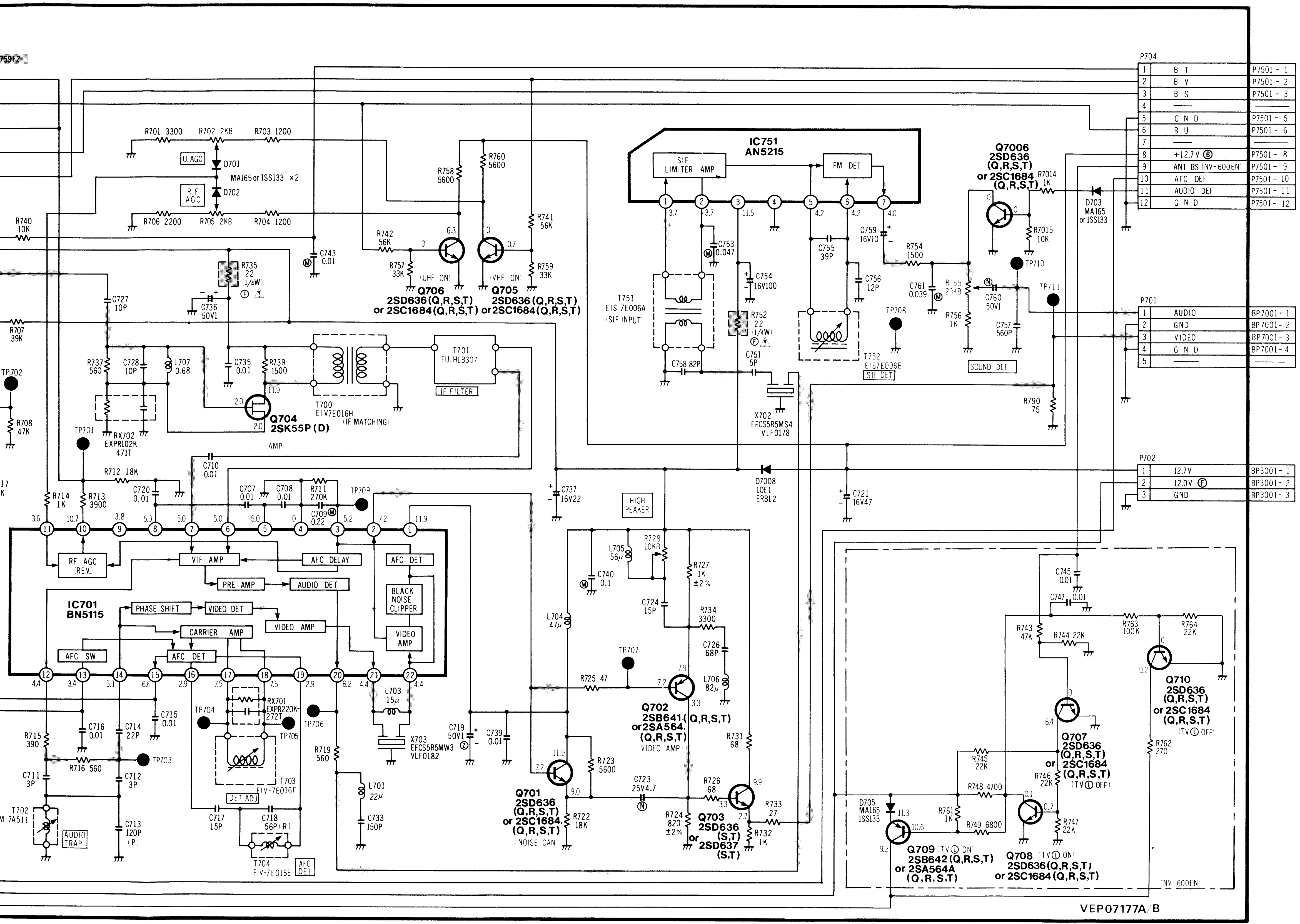


E
D
C
B
A
TNV77759F2
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
TP
C732 0.01
C701 16V22
C702 16V10
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
C734 0.01
R740 10K
R707 39K
R701 3300
R702 2KB
R703 1200
U.AGC
D701
MA165 or ISS133 ×2
RF AGC
D702
R706 2200
R705 2KB
R704 1200
R735 22 (1/4W)
C736 50V1
C743 0.01
R742 56K
R757 33K
R758 5600
R760 5600
R741 56K
R759 33K
Q706 2SD636(Q,R,S,T) or 2SC1684(Q,R,S,T)
(UHF ON)
Q705 2SD636(Q,R,S,T) or 2SC1684(Q,R,S,T)
(VHF ON)
C727 10P
R737 560
C728 10P
L707 0.68
C735 0.01
R739 1500
Q704 2SK55P (D)
(AMP)
T700 EIV7E016H (IF MATCHING)
T701 EULHLB307
IF FILTER
RX702 EXPR102K 471T
TP701
TP702
R708 47K
P703
GND
+12V Ⓕ
(NV-600E)
ANT BS
(NV-600EN)
R717 1K
C746 16V22
R712 18K
C720 0.01
C710 0.01
C707 0.01
C708 0.01
R711 270K
C709 Ⓜ 0.22
TP709
R714 1K
R713 3900
IC701 BN5115
RF AGC (REV.)
VIF AMP
AFC DELAY
AFC DET
PRE AMP
AUDIO DET
BLACK NOISE CLIPPER
PHASE SHIFT
VIDEO DET
CARRIER AMP
VIDEO AMP
AFC SW
AFC DET
R715 390
C716 0.01
C714 22P
C715 0.01
R716 560
TP703
TP704
RX701 EXPR220K 272T
TP705
TP706
C711 3P
C712 3P
T702 EIM-7A511
AUDIO TRAP
C713 120P (P)
T703 EIV-7E016F
DET ADJ
C717 15P
C718 56P(R)
T704 EIV-7E016E
AFC DET
R719 560
L703 15μ
X703 EFCS5R5MW3 VLF0182
L701 22μ
C733 150P
C719 50V1
C739 0.01
C737 16V22
HIGH PEAKER
L705 56μ
R728 10KB
C740 0.1
R727 1K ±2%
C724 15P
L704 47μ
R734 3300
C726 68P
TP707
R725 47
Q702 2SB641(Q,R,S,T) or 2SA564(Q,R,S,T)
(VIDEO AMP)
L706 82μ
R731 68
Q701 2SD636(Q,R,S,T) or 2SC1684(Q,R,S,T)
(NOISE CAN)
R723 5600
R722 18K
C723 25V4.7
R724 820 ±2%
R726 68
Q703 2SD636(S,T) or 2SD637(S,T)
R733 27
R732 1K
IC751 AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C754 16V100
T751 EIS7E006A (SIF INPUT)
R752 22 (1/4W)
C758 82P
C751 5P
X702 EFCS5R5MS4 VLF0178
D7008 10E1 ERB12
C721 16V47
C755 39P
C756 12P
T752 EIS7E006B
SIF DET
C759 16V10
R754 1500
C761 0.039
R756 1K
TP708
C760 50V1
SOUND DEF
R745 22K
R748 4700
R749 6800
R761 1K
D705 MA165 ISS133
Q709 (T. D ON) 2SB642(Q,R,S,T) or 2SA564A (Q,R,S,T)
P7004
BP7004-1
BP7004-2
BP7004-3
BP7004-4
BP7004-5
REG 9V
GND
VIDEO IN
GND
AUDIO IN
RF CONV. ENC17506 (NV-600EN) ENC17571 (NV-600E)
RF IN
RF OUT
B
GND
BS
ANT TERMINAL ENPE728 (NV-600EN) ENPE725 (NV-600E)
VTR
CONV. IN
VIDEO LOOP
AUDIO LOOP
1
2
3
4
5
6
7
8

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE: THE M
THIS I

TV Demodulator Schematic	
Q701	A-6
Q702	B-7
Q703	A-7
Q704	C-5
Q705	D-6
Q706	D-6
Q707	B-9
Q708	A-9
Q709	A-8
Q710	B-9
Q7006	D-9
IC701	B-4
IC751	E-7


759F2
IC751
AN5215
SIF LIMITER AMP
FM DET
IC701
BN5115
RF AGC (REV.)
VIF AMP
AFC DELAY
AFC DET
PRE AMP
AUDIO DET
BLACK NOISE CLIPPER
PHASE SHIFT
VIDEO DET
CARRIER AMP
VIDEO AMP
AFC SW
AFC DET
VIDEO AMP
U.AGC
RF AGC
D701
D702
MA165 or 1SS133 ×2
R701 3300
R702 2KB
R703 1200
R706 2200
R705 2KB
R704 1200
R740 10K
R707 39K
R708 47K
TP702
TP701
R737 560
C727 10P
C728 10P
L707 0.68
RX702 EXPR102K 471T
R712 18K
C720 0.01
R714 1K
R713 3900
R735 22 (1/4W)
C736 50V1
C735 0.01
R739 1500
C743 0.01
T700 EIV7E016H (IF MATCHING)
T701 EULHLB307
IF FILTER
Q704 2SK55P (D)
(AMP)
C710 0.01
C707 0.01
C708 0.01
R711 270K
C709 0.22
TP709
R742 56K
R757 33K
R758 5600
R760 5600
R741 56K
R759 33K
Q706 2SD636(Q,R,S,T) or 2SC1684(Q,R,S,T)
(UHF-ON)
Q705 2SD636(Q,R,S,T) or 2SC1684(Q,R,S,T)
(VHF-ON)
T751 EIS 7E006A (SIF INPUT)
C753 0.047
C754 16V100
R752 22 (1/4W)
C758 82P
C751 5P
X702 EFCS5R5MS4 VLF0178
C755 39P
C756 12P
T752 EIS7E006B
SIF DET
C759 16V10
R754 1500
C761 0.039
R755 20KB
R756 1K
C760 50V1
C757 560P
SOUND DEF
TP708
TP710
TP711
R790 75
Q7006 2SD636 (Q,R,S,T) or 2SC1684 (Q,R,S,T)
R7014 1K
R7015 10K
D703 MA165 or 1SS133
D7008 10E1 ERB12
C737 16V22
C721 16V47
HIGH PEAKER
L705 56μ
R728 10KB
C740 0.1
R727 1K ±2%
C724 15P
R734 3300
C726 68P
L706 82μ
L704 47μ
TP707
R725 47
Q702 2SB641(Q,R,S,T) or 2SA564(Q,R,S,T)
(VIDEO AMP)
R731 68
Q701 2SD636 (Q,R,S,T) or 2SC1684 (Q,R,S,T)
(NOISE CAN)
R723 5600
R722 18K
C723 25V4.7
R726 68
R724 820 ±2%
Q703 2SD636 (S,T) or 2SD637 (S,T)
R732 1K
R733 27
C719 50V1
C739 0.01
L703 15μ
X703 EFCS5R5MW3 VLF0182
L701 22μ
C733 150P
R719 560
TP706
RX701 EXPR220K-272T
TP705
TP704
T703 EIV-7E016F
DET ADJ
C717 15P
C718 56P (R)
T704 EIV-7E016E
AFC DET
C716 0.01
C714 22P
C715 0.01
R715 390
R716 560
TP703
C711 3P
C712 3P
C713 120P (P)
T702
AUDIO TRAP
C745 0.01
C747 0.01
R743 47K
R744 22K
R763 100K
R764 22K
Q710 2SD636 (Q,R,S,T) or 2SC1684 (Q,R,S,T)
(TV ① OFF)
R762 270
Q707 2SD636 (Q,R,S,T) or 2SC1684 (Q,R,S,T)
(TV ① OFF)
R745 22K
R746 22K
R748 4700
R747 22K
R749 6800
R761 1K
D705 MA165 1SS133
Q709 (TV ① ON) 2SB642 (Q,R,S,T) or 2SA564A (Q,R,S,T)
Q708 (TV ① ON) 2SD636 (Q,R,S,T) or 2SC1684 (Q,R,S,T)
(NV-600EN)
P704
1 B T P7501-1
2 B V P7501-2
3 B S P7501-3
4 —— ——
5 G N D P7501-5
6 B U P7501-6
7 —— ——
8 +12.7V Ⓑ P7501-8
9 ANT BS (NV-600EN) P7501-9
10 AFC DEF P7501-10
11 AUDIO DEF P7501-11
12 G N D P7501-12
P701
1 AUDIO BP7001-1
2 GND BP7001-2
3 VIDEO BP7001-3
4 G N D BP7001-4
5 —— ——
P702
1 12.7V BP3001-1
2 12.0V Ⓕ BP3001-2
3 GND BP3001-3
VEP07177A/B

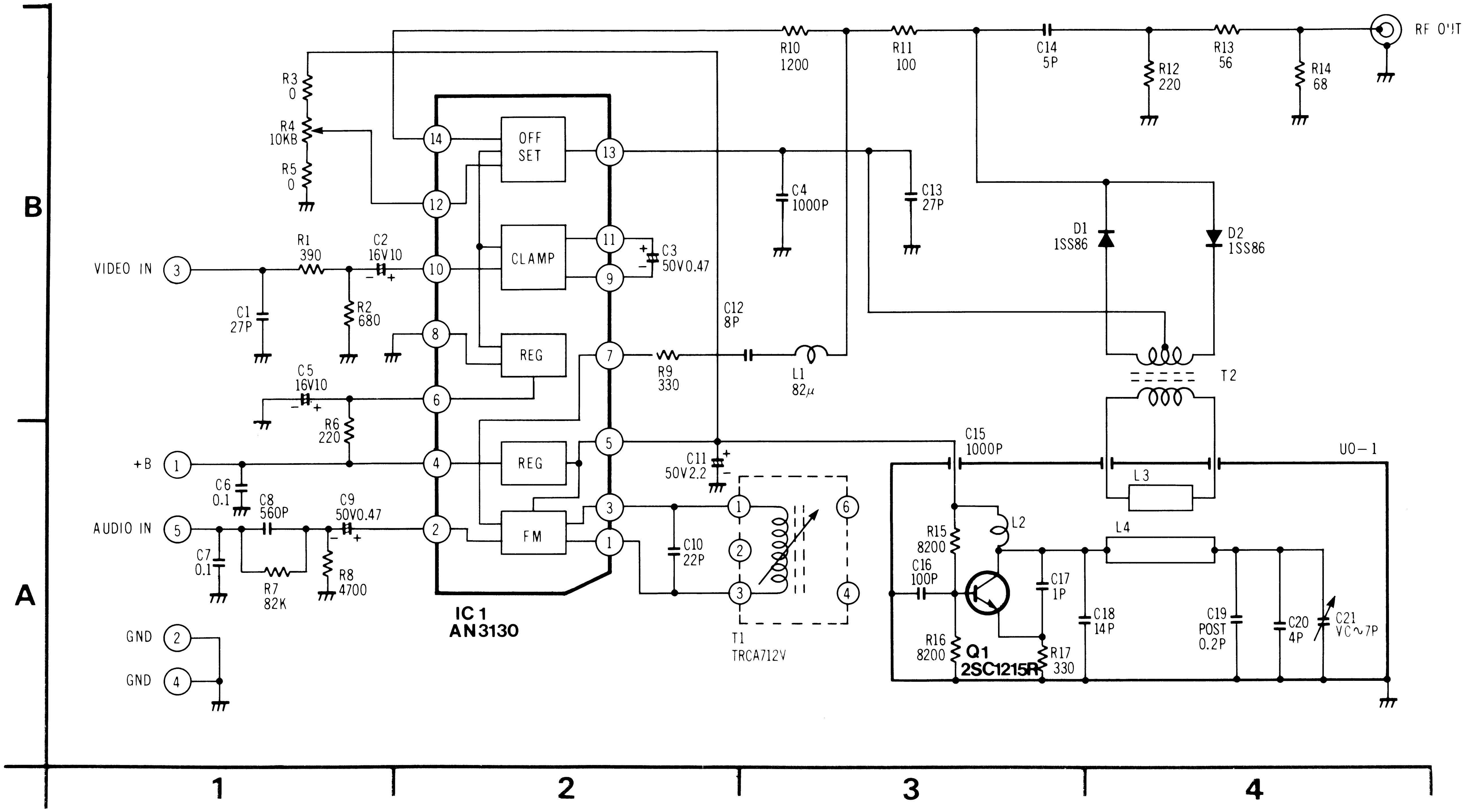
VIDEO LOOP AUDIO LOOP

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

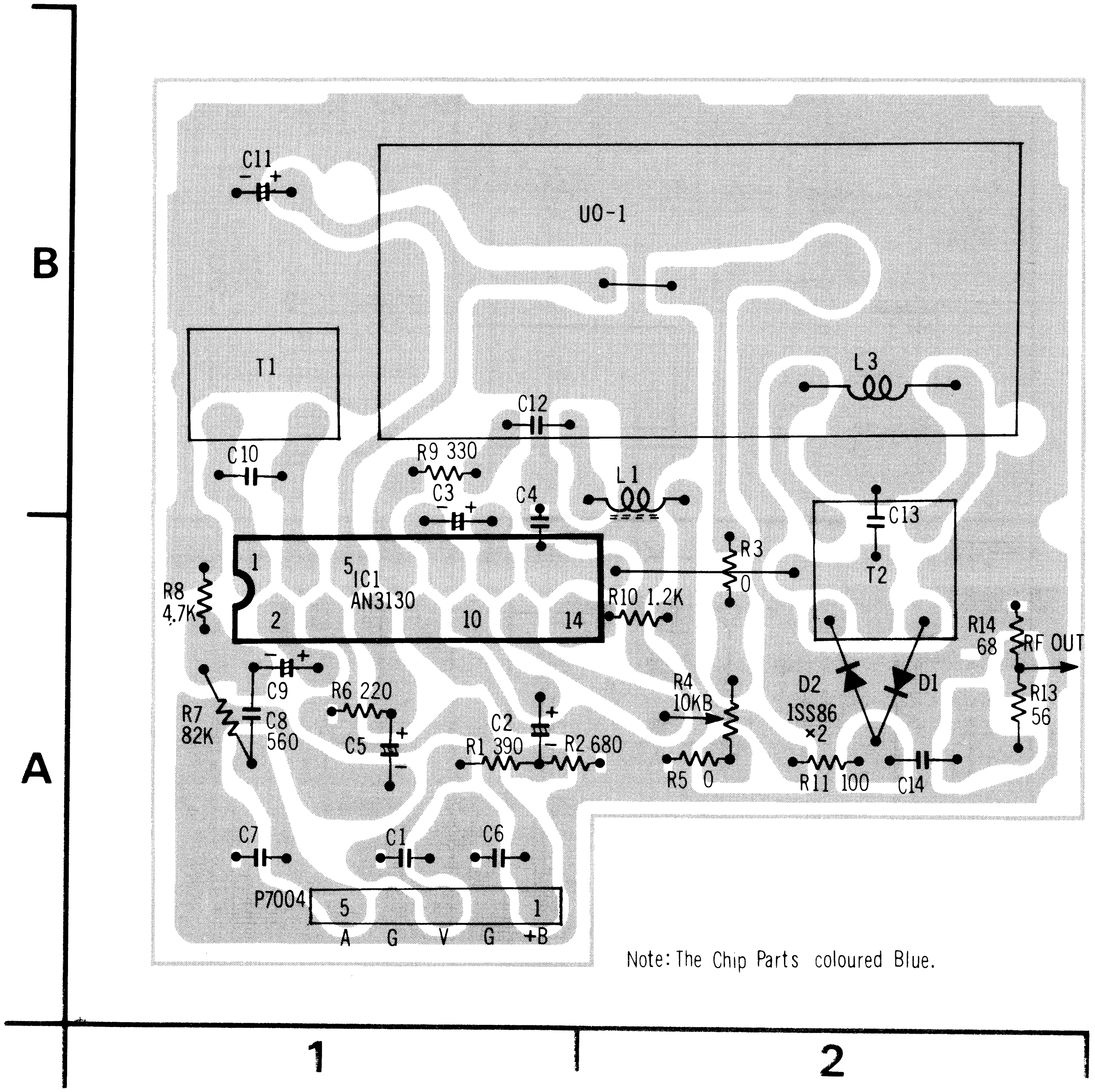
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

4 5 6 7 8 9 10

RF CONVERTER SCHEMATIC DIAGRAM (NV-600E)

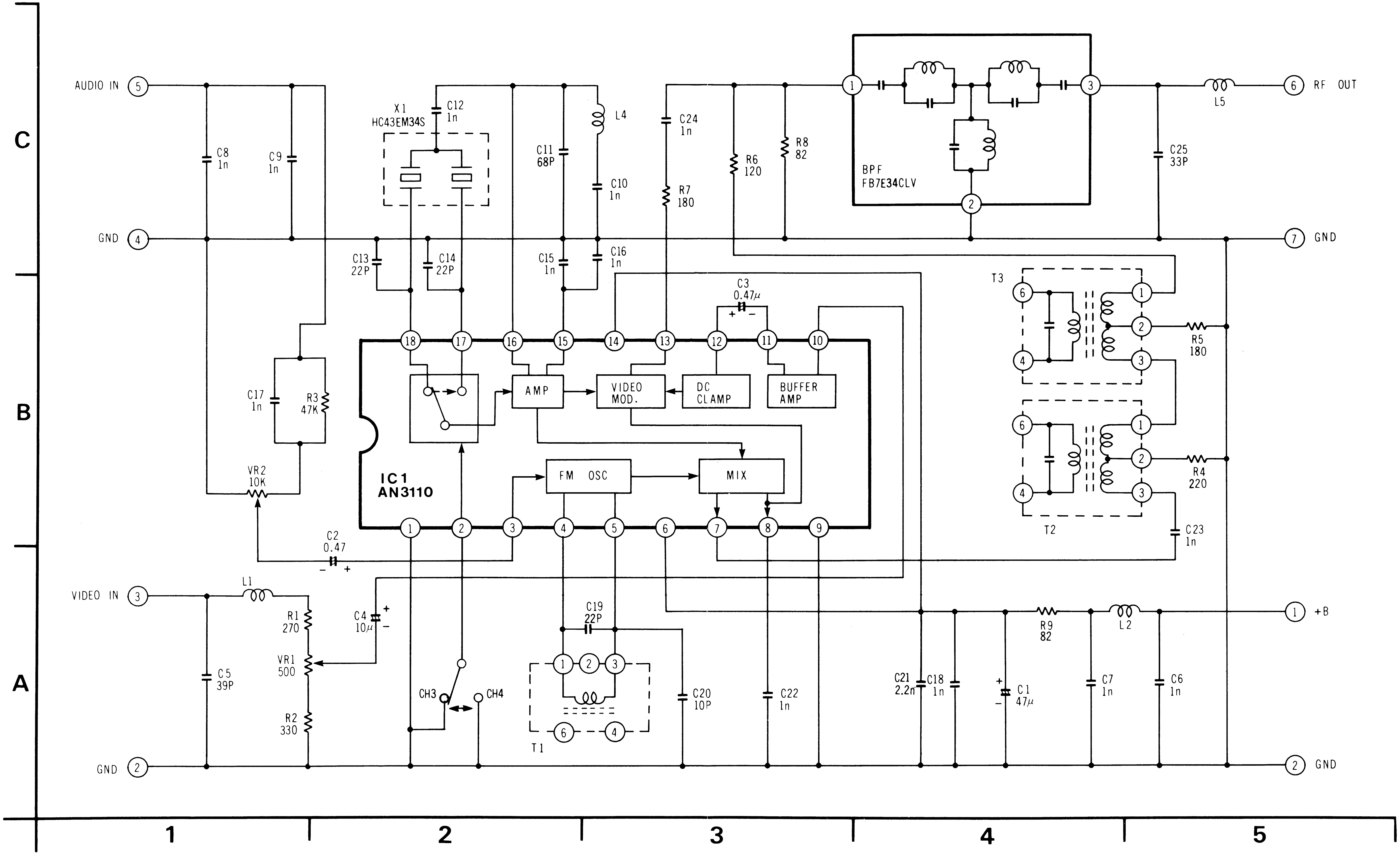

R10
1200
R11
100
C14
5P
R13
56
RF OUT
R12
220
R14
68
R3
0
R4
10KB
R5
0
OFF SET
CLAMP
REG
REG
FM
14
13
12
11
10
9
8
7
6
5
4
3
2
1
C4
1000P
C13
27P
D1
1SS86
D2
1SS86
B
VIDEO IN
3
R1
390
C2
16V10
C3
50V0.47
C1
27P
R2
680
C12
8P
C5
16V10
R6
220
R9
330
L1
82μ
T2
+B
1
C15
1000P
UO-1
C11
50V2.2
C6
0.1
C8
560P
C9
50V0.47
L3
AUDIO IN
5
L2
L4
A
C7
0.1
R7
82K
R8
4700
C10
22P
R15
8200
C16
100P
C17
1P
C18
14P
C19
POST
0.2P
C20
4P
C21
VC~7P
IC 1
AN3130
T1
TRCA712V
R16
8200
Q1
2SC1215R
R17
330
GND
2
GND
4
1
2
3
4

RF CONVERTER BOARD (ENC17571: NV-600E)

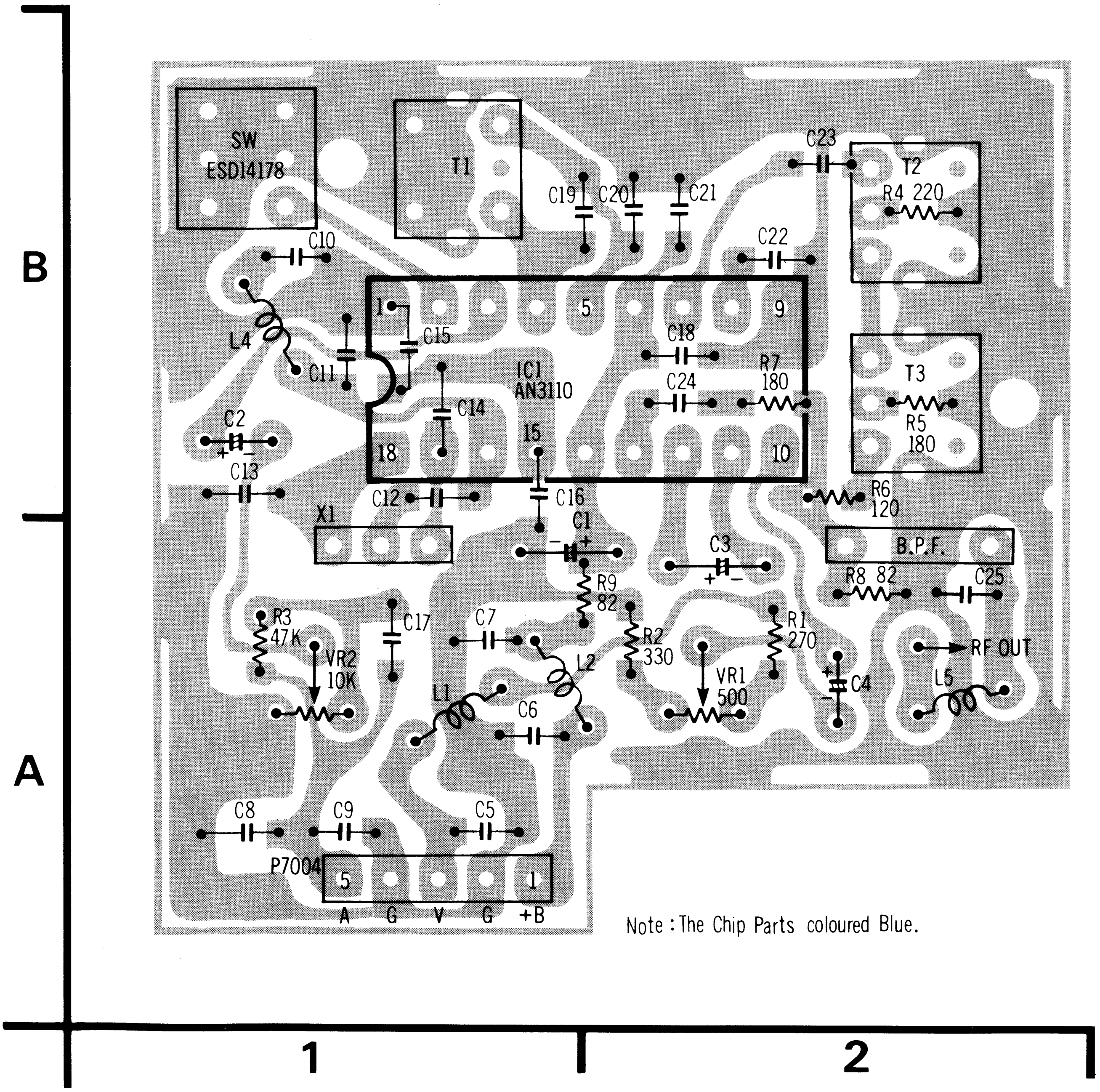

B
A
1
2
C11
UO-1
T1
L3
C12
C10
R9 330
C3
C4
L1
C13
T2
R3 0
R8 4.7K
1
5
IC1
AN3130
2
10
14
R10 1.2K
R14 68
RF OUT
C9
R6 220
R4 10KB
D2
D1
1SS86 ×2
R13 56
R7 82K
C8 560
C5
C2
R1 390
R2 680
R5 0
R11 100
C14
C7
C1
C6
P7004
5
1
A
G
V
G
+B

Note: The Chip Parts coloured Blue.

RF CONVERTER SCHEMATIC DIAGRAM (NV-600EN)

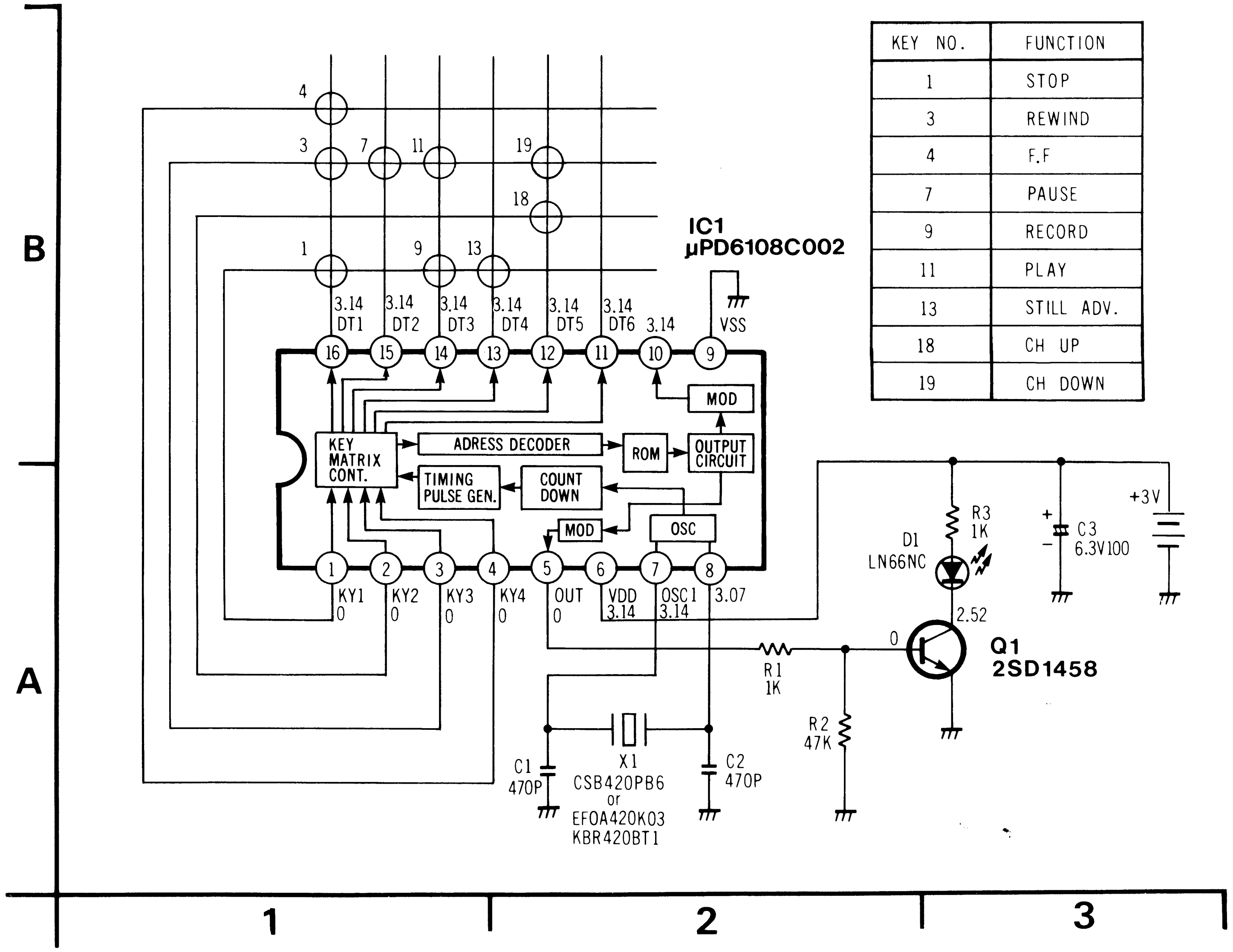

C
B
A
1
2
3
4
5
AUDIO IN ⑤
GND ④
VIDEO IN ③
GND ②
C8 1n
C9 1n
X1 HC43EM34S
C12 1n
C11 68P
L4
C10 1n
C24 1n
R7 180
R6 120
R8 82
BPF FB7E34CLV
C25 33P
L5
⑥ RF OUT
⑦ GND
C13 22P
C14 22P
C15 1n
C16 1n
C3 0.47μ
T3
R5 180
C17 1n
R3 47K
VR2 10K
AMP
VIDEO MOD.
DC CLAMP
BUFFER AMP
FM OSC
MIX
IC1 AN3110
T2
R4 220
C23 1n
C2 0.47
L1
R1 270
VR1 500
R2 330
C5 39P
C4 10μ
CH3
CH4
C19 22P
T1
C20 10P
C22 1n
C21 2.2n
C18 1n
C1 47μ
R9 82
L2
C7 1n
C6 1n
① +B
② GND

RF CONVERTER BOARD (ENC17506: NV-600EN)


B
A
1
2
SW
ESD14178
T1
C19
C20
C21
C23
T2
R4 220
C10
C22
L4
1
5
9
C15
C18
C11
IC1
AN3110
R7
180
C24
T3
C14
R5
180
C2
15
18
10
C13
R6
120
C12
C16
X1
C1
C3
B.P.F.
R9
82
R8 82
C25
R3
47K
C17
C7
R2
330
R1
270
VR2
10K
L2
VR1
500
C4
RF OUT
L1
C6
L5
C8
C9
C5
P7004
5
1
A
G
V
G
+B

Note : The Chip Parts coloured Blue.

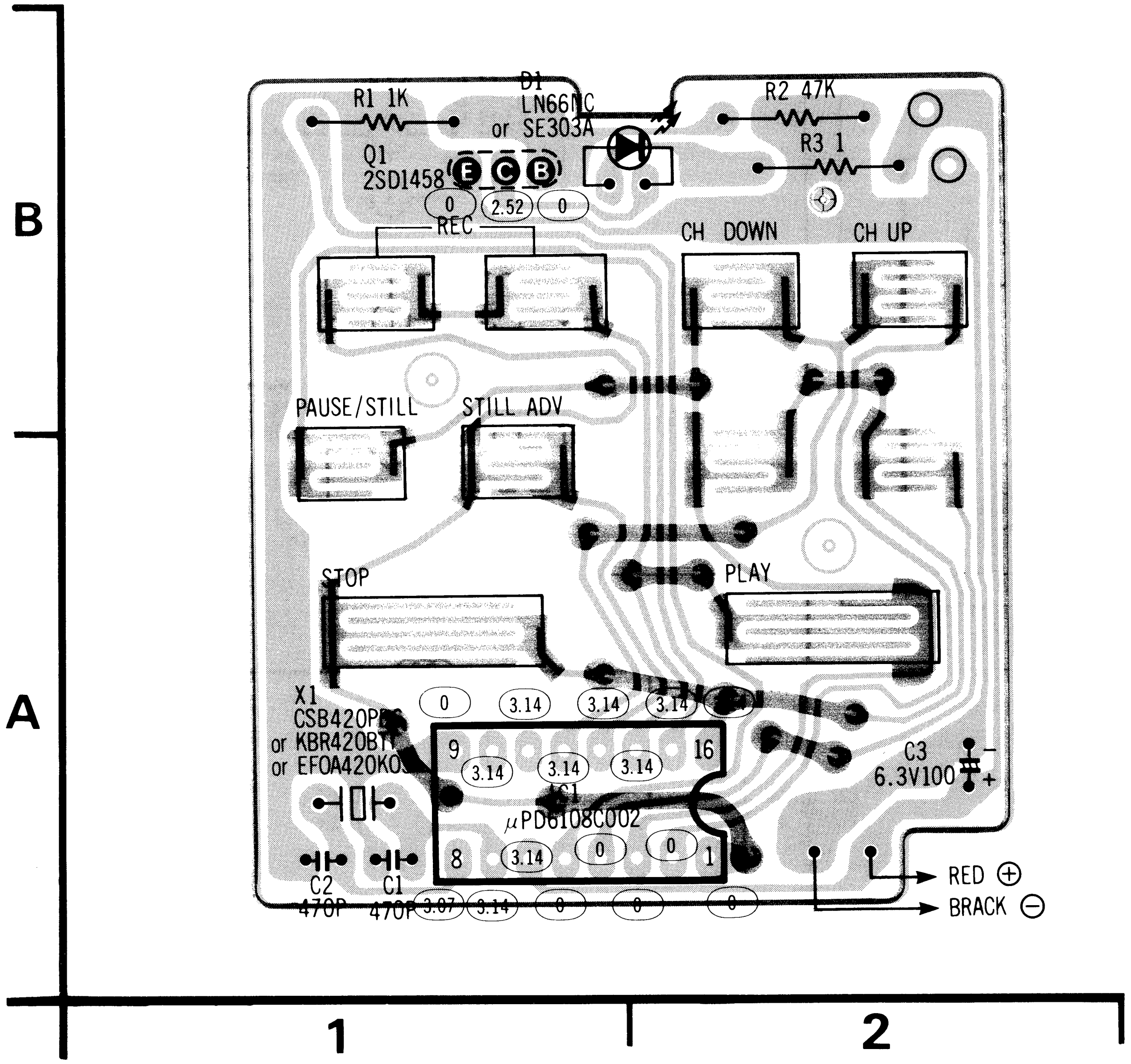
IR REMOTE CONTROL TRANSMITTER SCHEMATIC DIAGRAM



IC1
µPD6108C002
DT1
DT2
DT3
DT4
DT5
DT6
VSS
KY1
KY2
KY3
KY4
OUT
VDD
OSC1
KEY MATRIX CONT.
ADRESS DECODER
ROM
OUTPUT CIRCUIT
MOD
TIMING PULSE GEN.
COUNT DOWN
OSC
R3 1K
D1 LN66NC
C3 6.3V100
+3V
Q1 2SD1458
R1 1K
R2 47K
C1 470P
C2 470P
X1 CSB420PB6 or EFOA420K03 KBR420BT1
2.52
3.14
3.07
B
A
1
2
3

KEY NO.	FUNCTION
1	STOP
3	REWIND
4	F.F
7	PAUSE
9	RECORD
11	PLAY
13	STILL ADV.
18	CH UP
19	CH DOWN

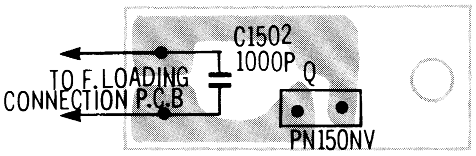
IR REMOTE CONTROL TRANSMITTER BOARD (VEP22016)



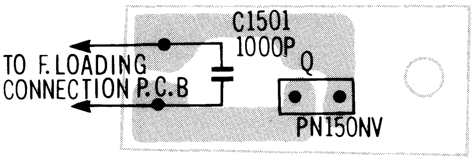
R1 1K
D1 LN66NC or SE303A
R2 47K
R3 1
Q1 2SD1458
E
C
B
REC
CH DOWN
CH UP
PAUSE/STILL
STILL ADV
STOP
PLAY
X1 CSB420PB6 or KBR420BT1 or EFOA420K03
µPD6108C002
C3 6.3V100
C2 470P
C1 470P
RED ⊕
BRACK ⊖
B
A
1
2

SMALL CIRCUIT BOARD

SUPPLY PHOTO TR P.C.B.
(VJB00744)


C1502
1000P
Q
TO F.LOADING
CONNECTION P.C.B
PN150NV

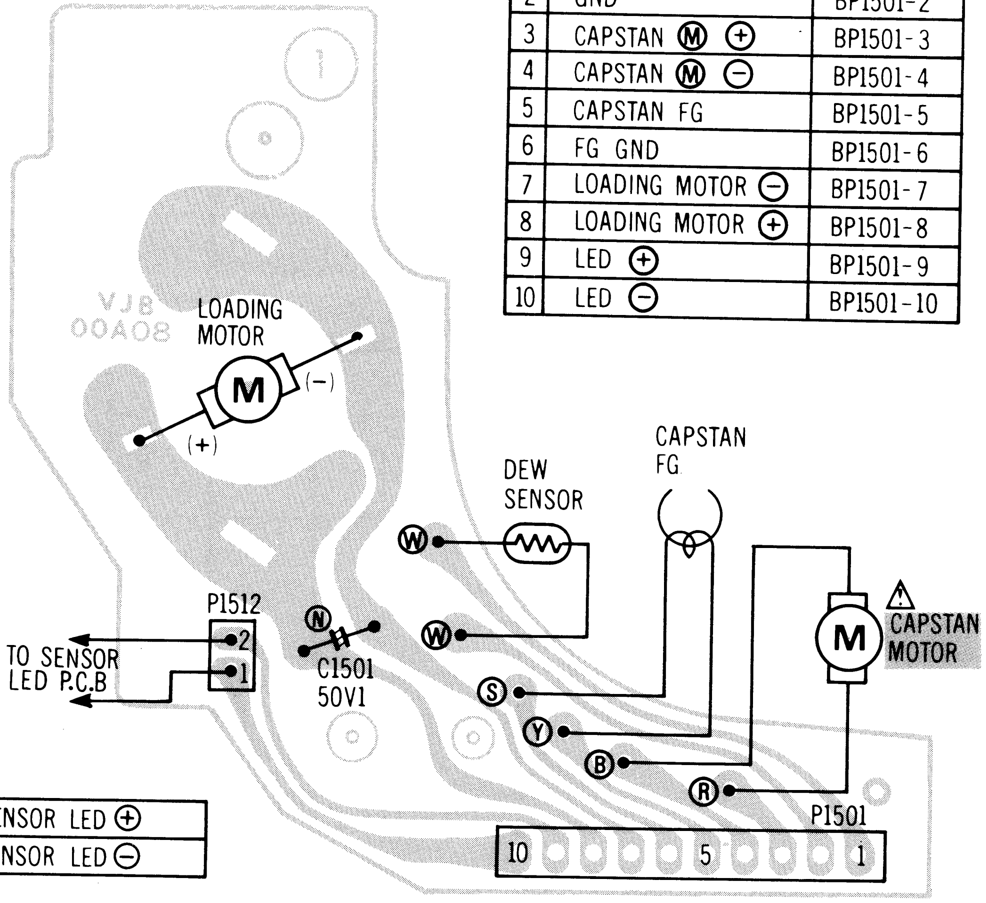
TAKEUP PHOTO TR P.C.B.
(VJB00636)


C1501
1000P
Q
TO F.LOADING
CONNECTION P.C.B
PN150NV

MOTOR CONNECTION P.C.B. (VJB00A08)

P1501

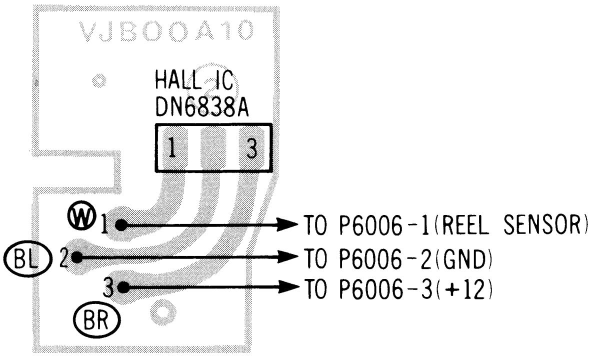
1	DEW SENSOR	BP1501-1
2	GND	BP1501-2
3	CAPSTAN Ⓜ ⊕	BP1501-3
4	CAPSTAN Ⓜ ⊖	BP1501-4
5	CAPSTAN FG	BP1501-5
6	FG GND	BP1501-6
7	LOADING MOTOR ⊖	BP1501-7
8	LOADING MOTOR ⊕	BP1501-8
9	LED ⊕	BP1501-9
10	LED ⊖	BP1501-10


VJB
00A08
LOADING
MOTOR
M
(−)
(+)
CAPSTAN
FG
DEW
SENSOR
Ⓦ
Ⓦ
Ⓝ
P1512
2
1
TO SENSOR
LED P.C.B
C1501
50V1
Ⓢ
Ⓨ
Ⓑ
Ⓡ
M
CAPSTAN
MOTOR
P1501
10
5
1

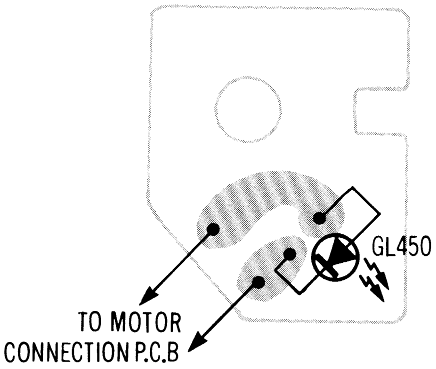
P1512

1	SENSOR LED ⊕
2	SENSOR LED ⊖

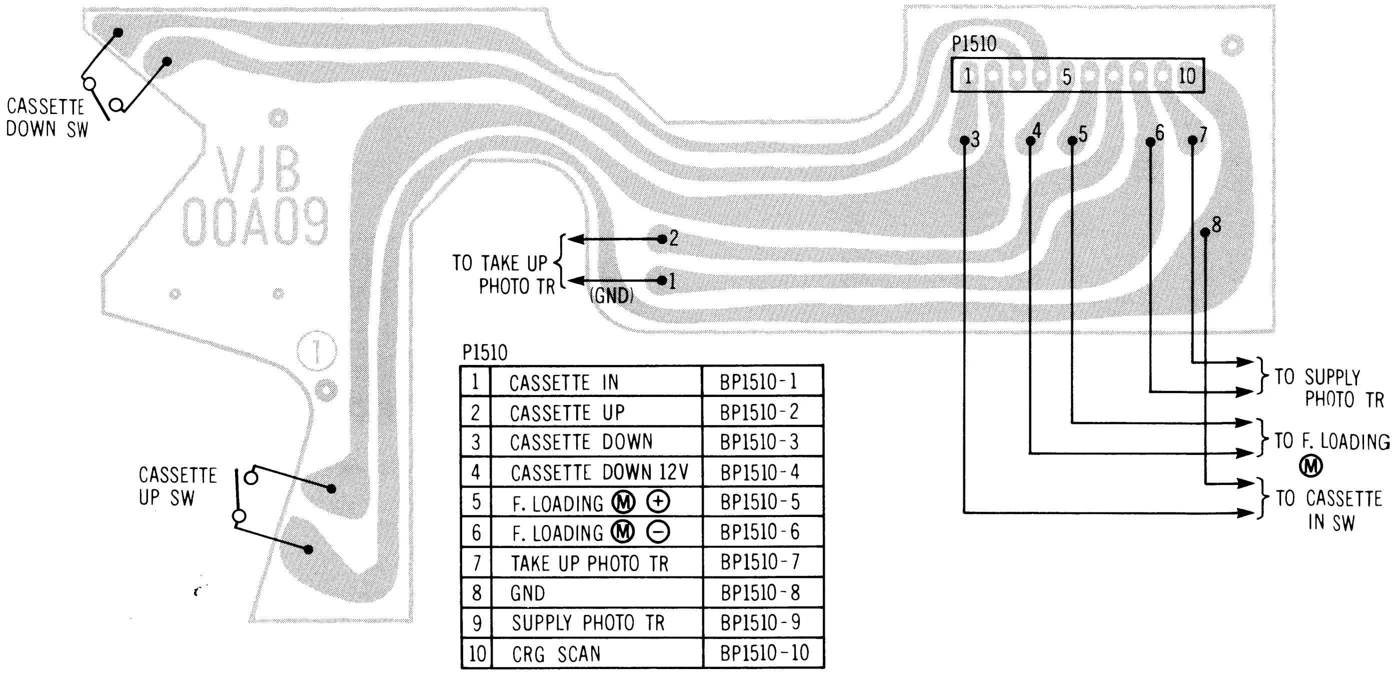
REEL SENSOR P.C.B. (VJB00A10)


VJB00A10
HALL IC
DN6838A
1
3
Ⓦ 1
BL 2
3
BR
TO P6006-1(REEL SENSOR)
TO P6006-2(GND)
TO P6006-3(+12)

SENSOR LED P.C.B. (VJB00976)


GL450
TO MOTOR
CONNECTION P.C.B

FRONT LOADING CONNECTION P.C.B. (VJB00A09)

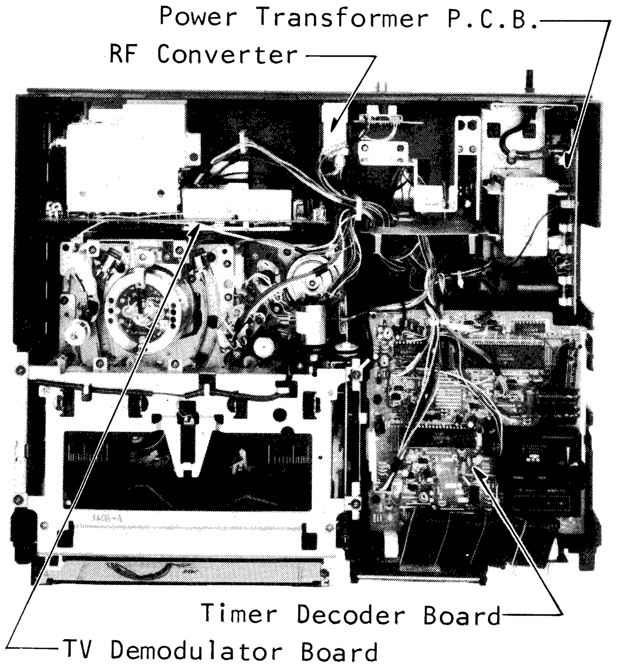

CASSETTE
DOWN SW
VJB
00A09
P1510
1
5
10
3
4
5
6
7
8
2
1
TO TAKE UP
PHOTO TR
(GND)
TO SUPPLY
PHOTO TR
TO F. LOADING
Ⓜ
TO CASSETTE
IN SW
CASSETTE
UP SW

P1510

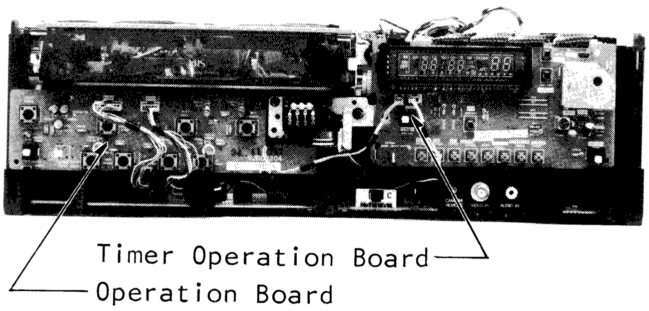
1	CASSETTE IN	BP1510-1
2	CASSETTE UP	BP1510-2
3	CASSETTE DOWN	BP1510-3
4	CASSETTE DOWN 12V	BP1510-4
5	F. LOADING Ⓜ ⊕	BP1510-5
6	F. LOADING Ⓜ ⊖	BP1510-6
7	TAKE UP PHOTO TR	BP1510-7
8	GND	BP1510-8
9	SUPPLY PHOTO TR	BP1510-9
10	CRG SCAN	BP1510-10

CIRCUIT BOARD LAYOUT

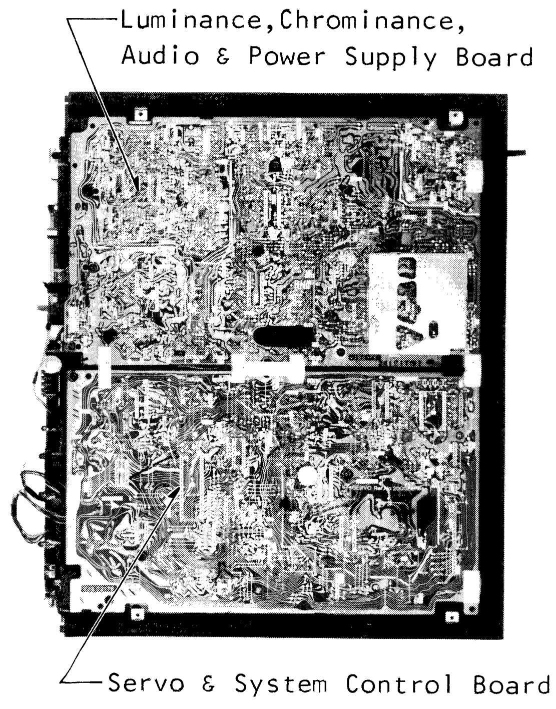
TOP VIEW


Power Transformer P.C.B.
RF Converter
Timer Decoder Board
TV Demodulator Board

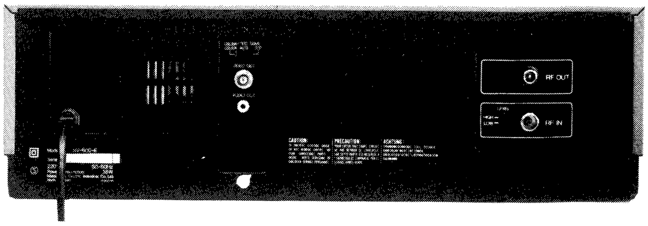
FRONT VIEW


Timer Operation Board
Operation Board

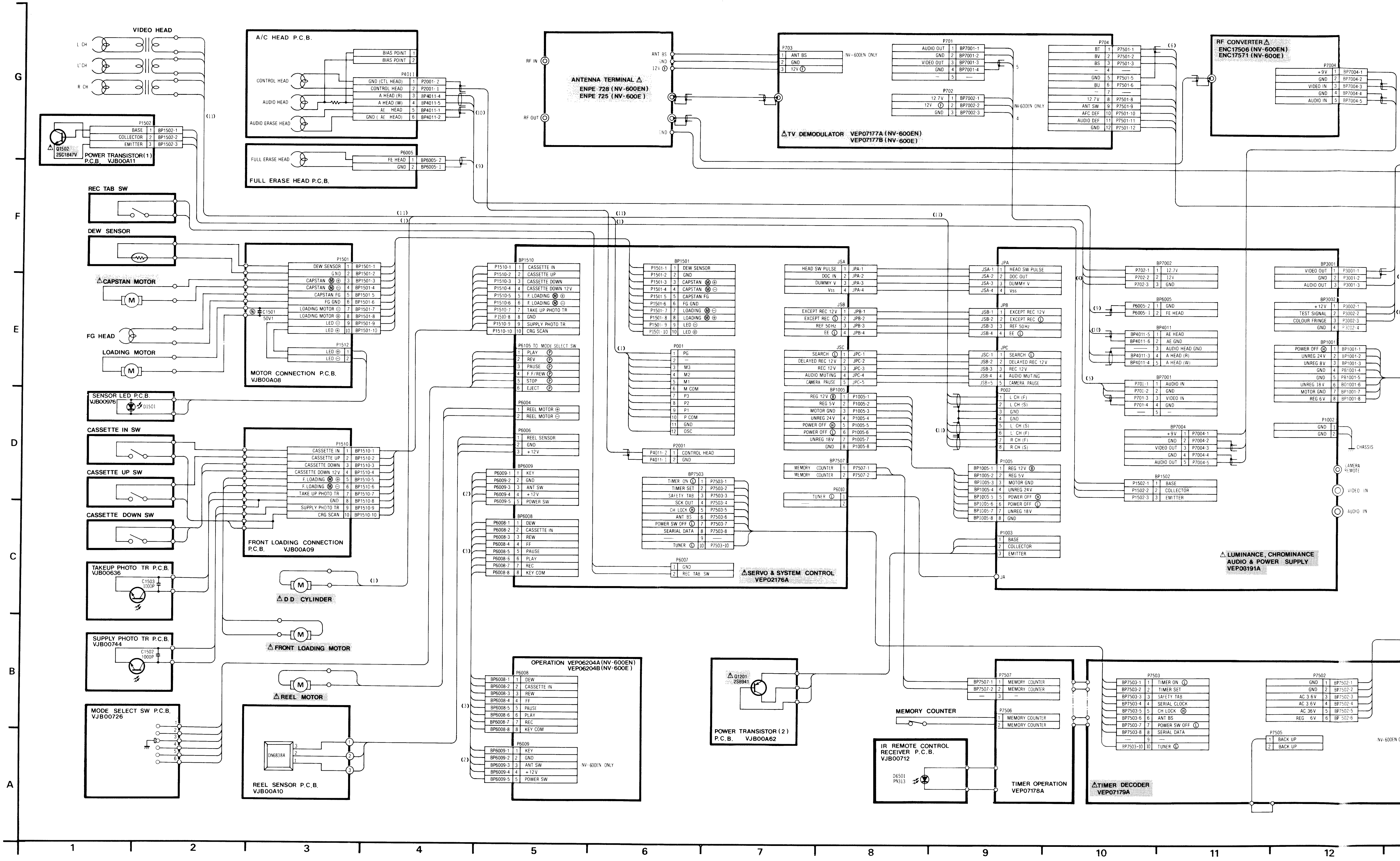
BOTTOM VIEW


Luminance, Chrominance, Audio & Power Supply Board
Servo & System Control Board

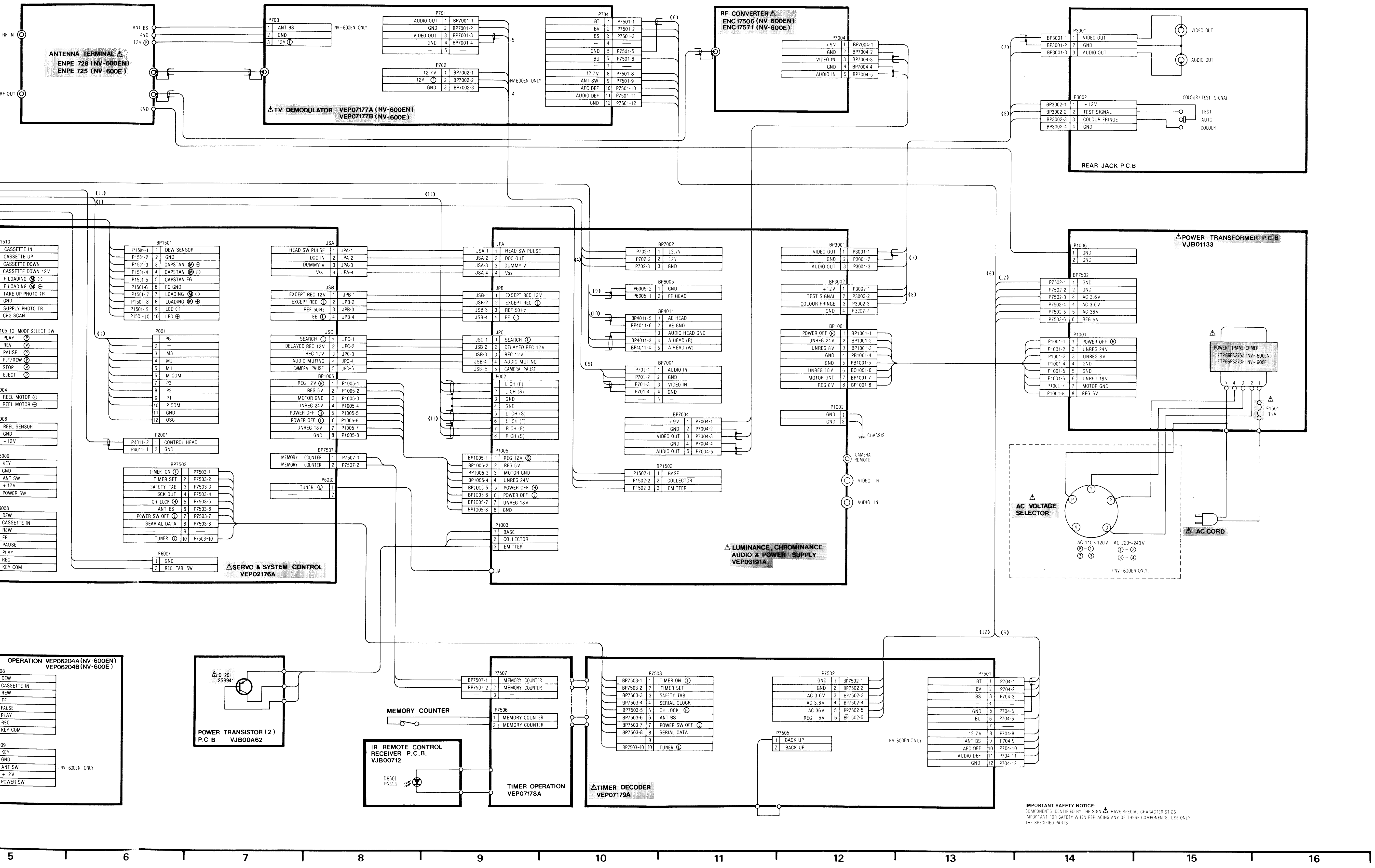
REAR VIEW



INTERCONNECTION SCHEMATIC DIAGRAM



VIDEO HEAD
A/C HEAD P.C.B.
CONTROL HEAD
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
FULL ERASE HEAD P.C.B.
Q1502 2SC1847V
POWER TRANSISTOR (1) P.C.B. VJB00A11
ANTENNA TERMINAL
ENPE 728 (NV-600EN)
ENPE 725 (NV-600E)
RF IN
RF OUT
TV DEMODULATOR VEP07177A (NV-600EN) VEP07177B (NV-600E)
RF CONVERTER
ENC17506 (NV-600EN)
ENC17571 (NV-600E)
REC TAB SW
DEW SENSOR
CAPSTAN MOTOR
FG HEAD
LOADING MOTOR
MOTOR CONNECTION P.C.B. VJB00A08
SENSOR LED P.C.B. VJB00976
CASSETTE IN SW
CASSETTE UP SW
CASSETTE DOWN SW
FRONT LOADING CONNECTION P.C.B. VJB00A09
TAKEUP PHOTO TR P.C.B. VJB00636
SUPPLY PHOTO TR P.C.B. VJB00744
D D CYLINDER
FRONT LOADING MOTOR
REEL MOTOR
MODE SELECT SW P.C.B. VJB00726
REEL SENSOR P.C.B. VJB00A10
DN6838A
SERVO & SYSTEM CONTROL VEP02176A
OPERATION VEP06204A (NV-600EN) VEP06204B (NV-600E)
POWER TRANSISTOR (2) P.C.B. VJB00A62
Q1201 2SB941
MEMORY COUNTER
IR REMOTE CONTROL RECEIVER P.C.B. VJB00712
D6501 PN313
TIMER OPERATION VEP07178A
TIMER DECODER VEP07179A
LUMINANCE, CHROMINANCE AUDIO & POWER SUPPLY VEP03191A
CAMERA REMOTE
VIDEO IN
AUDIO IN
CHASSIS
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


RF IN
RF OUT
ANTENNA TERMINAL △
ENPE 728 (NV-600EN)
ENPE 725 (NV-600E)
△TV DEMODULATOR VEP07177A (NV-600EN)
VEP07177B (NV-600E)
P703
P701
P702
P704
NV-600EN ONLY
RF CONVERTER △
ENC17506 (NV-600EN)
ENC17571 (NV-600E)
P7004
P3001
P3002
VIDEO OUT
AUDIO OUT
COLOUR / TEST SIGNAL
TEST
AUTO
COLOUR
REAR JACK P.C.B.
BP1501
P001
P2001
BP7503
P6007
JSA
JSB
JSC
BP1005
BP7507
P6010
△SERVO & SYSTEM CONTROL
VEP02176A
JPA
JPB
JPC
P002
P1005
P1003
BP7002
BP6005
BP4011
BP7001
BP7004
BP1502
BP3001
BP3002
BP1001
P1002
CHASSIS
CAMERA REMOTE
VIDEO IN
AUDIO IN
△LUMINANCE, CHROMINANCE AUDIO & POWER SUPPLY
VEP03191A
△POWER TRANSFORMER P.C.B
VJB01133
P1006
BP7502
P1001
POWER TRANSFORMER
ETP66PS275A (NV-600EN)
ETP66PS273I (NV-600E)
F1501
T1A
△ AC VOLTAGE SELECTOR
AC 110~120V
AC 220~240V
(NV-600EN ONLY)
△ AC CORD
OPERATION VEP06204A (NV-600EN)
VEP06204B (NV-600E)
NV-600EN ONLY
△Q1201
2SB941
POWER TRANSISTOR (2)
P.C.B. VJB00A62
MEMORY COUNTER
IR REMOTE CONTROL RECEIVER P.C.B.
VJB00712
D6501
PN313
P7507
P7506
TIMER OPERATION
VEP07178A
P7503
P7502
P7505
P7501
△TIMER DECODER
VEP07179A
5
6
7
8
9
10
11
12
13
14
15
16

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN △ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS

ORDER NO. VRD-8306-430

Service Manual

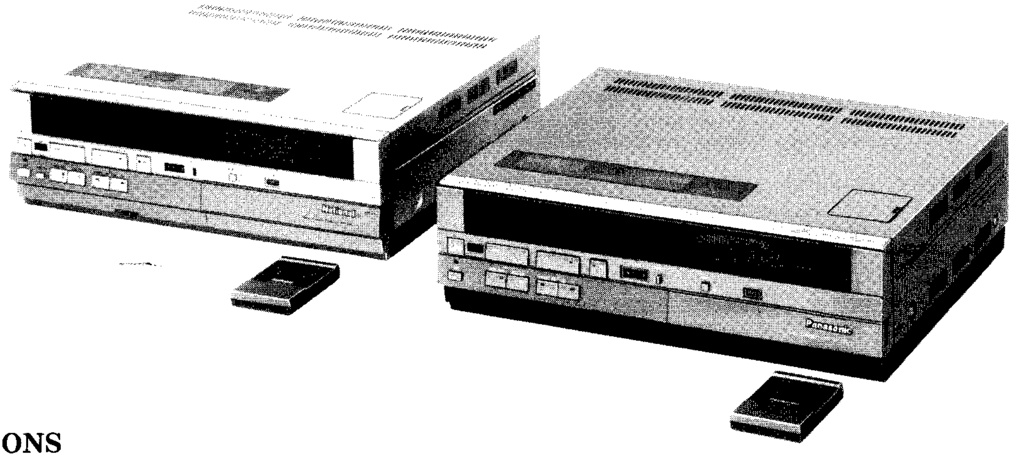
Video Cassette Recorder

National/Panasonic VHS

NV-600-E -EN

Vol. 4

Exploded Views
Replacement Parts List



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-600-E)
110/220V AC 50/60Hz (NV-600-EN)
Power Consumption: Approx. 38 watts
Television System: CCIR: 625 lines, 50 fields
PAL colour signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240min. with NV-E240
FF/REW Time: Less than 4.5min. with NV-E180
Heads: Video: 3 rotary heads
1 pair for normal recording and playback (R-L Head)
1 pair for trick play (L-L′ Head) (field still)
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE IN jack (Phono jack)
More than −20dB, 50kΩ
TV Tuners: VHF CH2～CH12
UHF CH21～CH69

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminated
Audio: LINE OUT jack (Phono jack)
−6dB, less than 1kΩ
RF Modulated: UHF CH36 ± 4 (NV-600-E)
VHF CH3/CH4 (NV-600-EN)
76dBμ 75Ω unbalanced
Weight: 9.8kg
Dimensions: 430(W) x 129(H) x 373(D) mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0130
1 pc. Video Cassette Tape (NV-600-EN only)
1 pc. Wireless Remote Controller, (VSQ0305; NV-600-E) (VSQ0306; NV-600-EN)
Optional Accessories: Video cassette tape:

NV-E240	Approx.	344m,	240min.
NV-E180	Approx.	258m,	180min.
NV-E120	Approx.	174m,	120min.
NV-E60	Approx.	88m,	60min.

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

National / Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

SPECIFICATIONS .... Cover

INNER PARTS LOCATION .... 4 - 1

  TOP VIEW .... 4 - 1

  BOTTOM VIEW .... 4 - 2

EXPLODED VIEWS... 4 - 3

  1. Transport Section .... 4 - 3

  2. Moving Mechanism Section -(1) .... 4 - 4

  3. Moving Mechanism Section -(2) .... 4 - 5

  4. Cassette Loading Mechanism Section .... 4 - 6

  5. Chassis Frame & Cabinet Parts Section .... 4 - 7

  6. Packing Parts Section .... 4 - 8

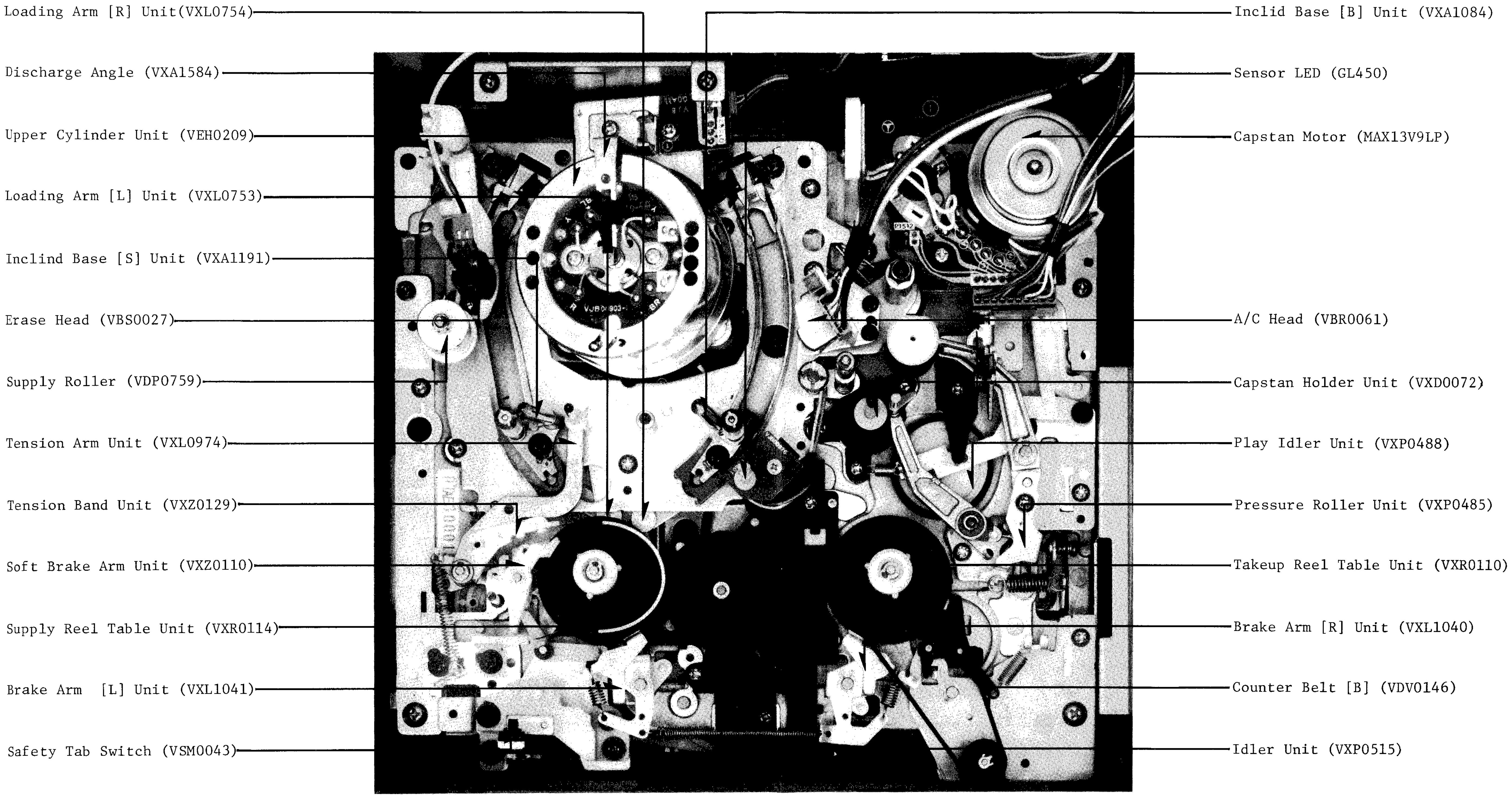
  7. Remote Control Transmitter Section .... 4 - 9

MECHANICAL REPLACEMENT PARTS LIST .... 4 -10

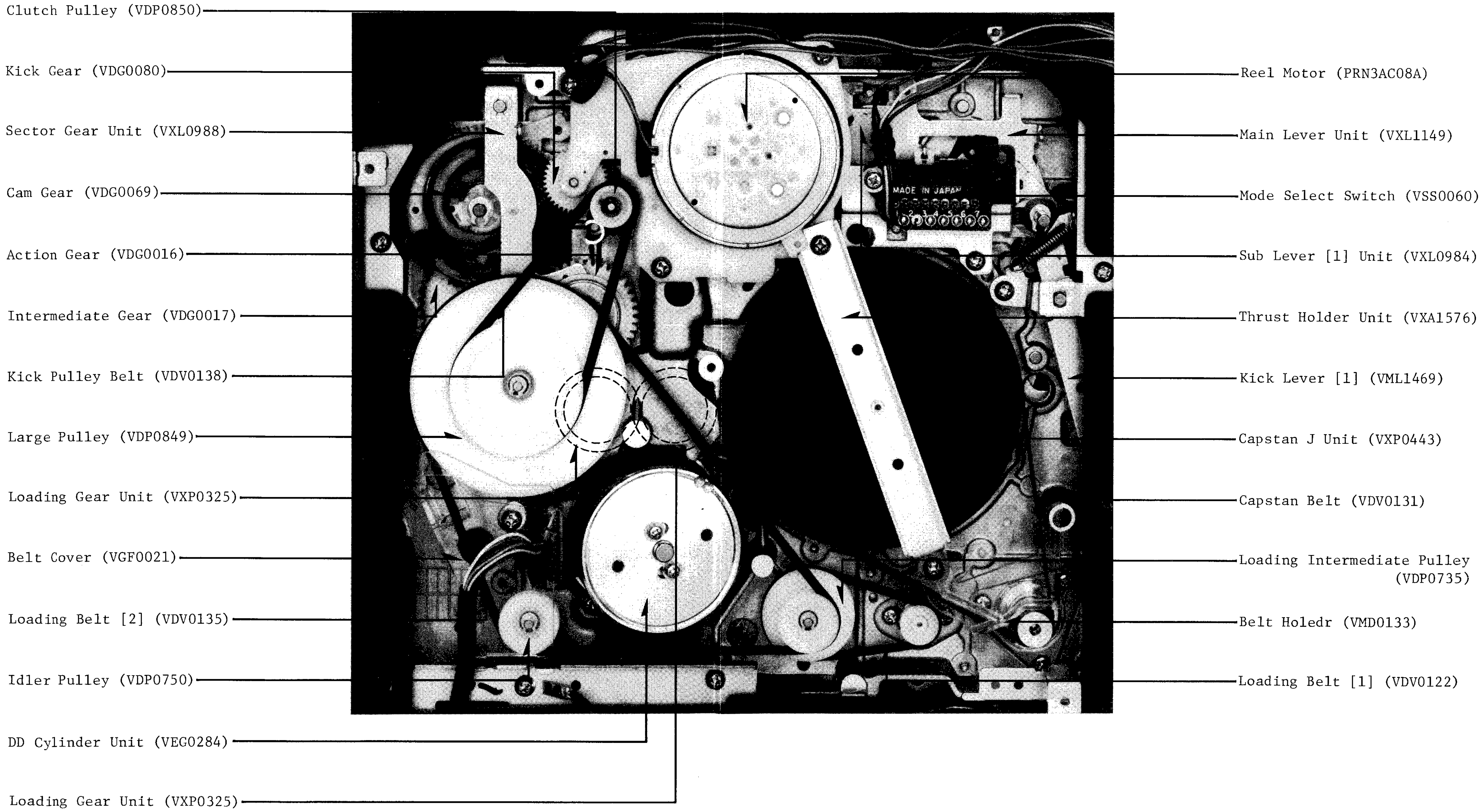
ELECTRICAL REPLACEMENT PARTS LIST .... 4 -13

INNER PARTS LOCATION

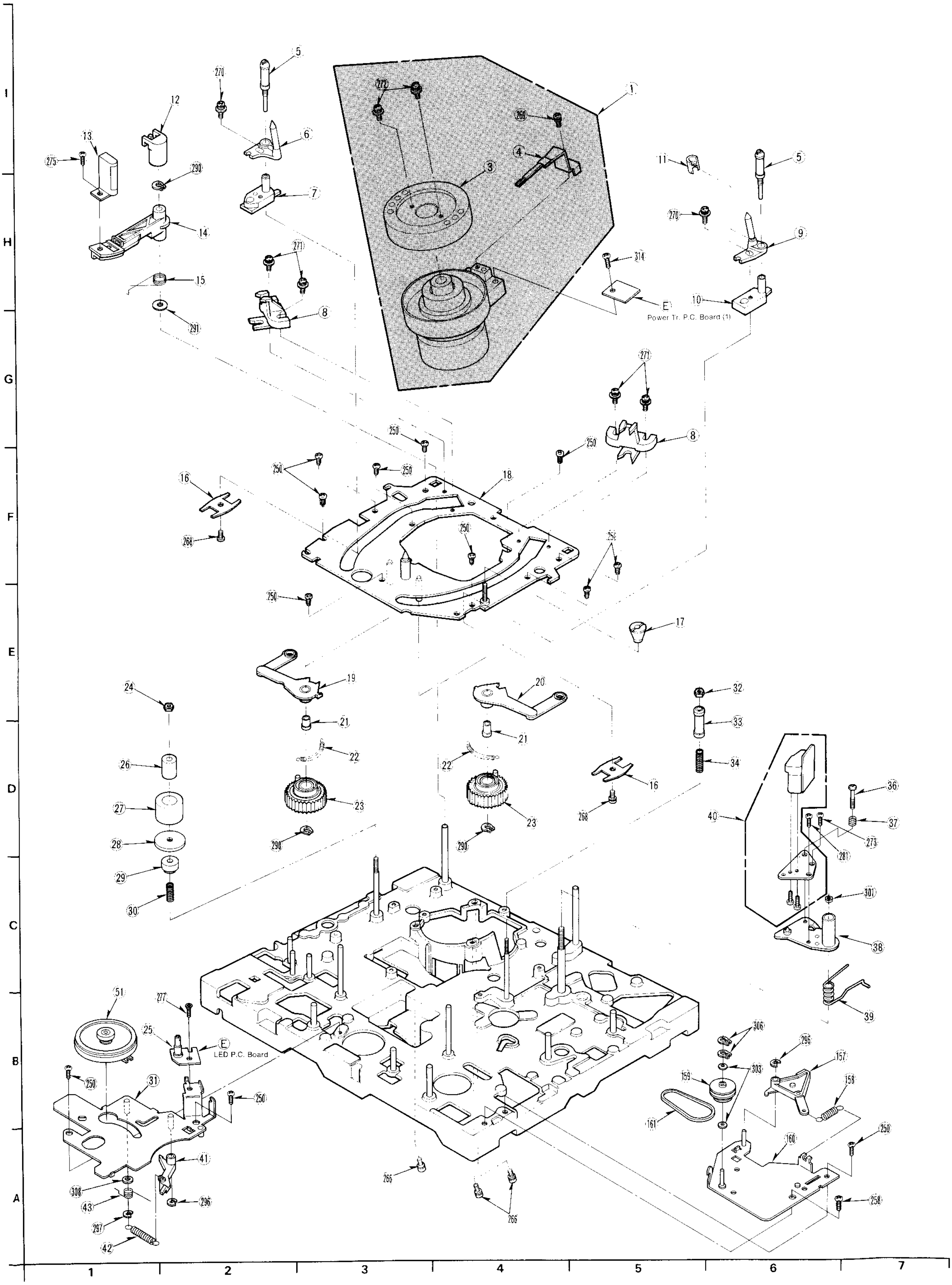
TOP VIEW


Loading Arm [R] Unit(VXL0754)
Discharge Angle (VXA1584)
Upper Cylinder Unit (VEH0209)
Loading Arm [L] Unit (VXL0753)
Inclind Base [S] Unit (VXA1191)
Erase Head (VBS0027)
Supply Roller (VDP0759)
Tension Arm Unit (VXL0974)
Tension Band Unit (VXZ0129)
Soft Brake Arm Unit (VXZ0110)
Supply Reel Table Unit (VXR0114)
Brake Arm [L] Unit (VXL1041)
Safety Tab Switch (VSM0043)
Inclid Base [B] Unit (VXA1084)
Sensor LED (GL450)
Capstan Motor (MAX13V9LP)
A/C Head (VBR0061)
Capstan Holder Unit (VXD0072)
Play Idler Unit (VXP0488)
Pressure Roller Unit (VXP0485)
Takeup Reel Table Unit (VXR0110)
Brake Arm [R] Unit (VXL1040)
Counter Belt [B] (VDV0146)
Idler Unit (VXP0515)

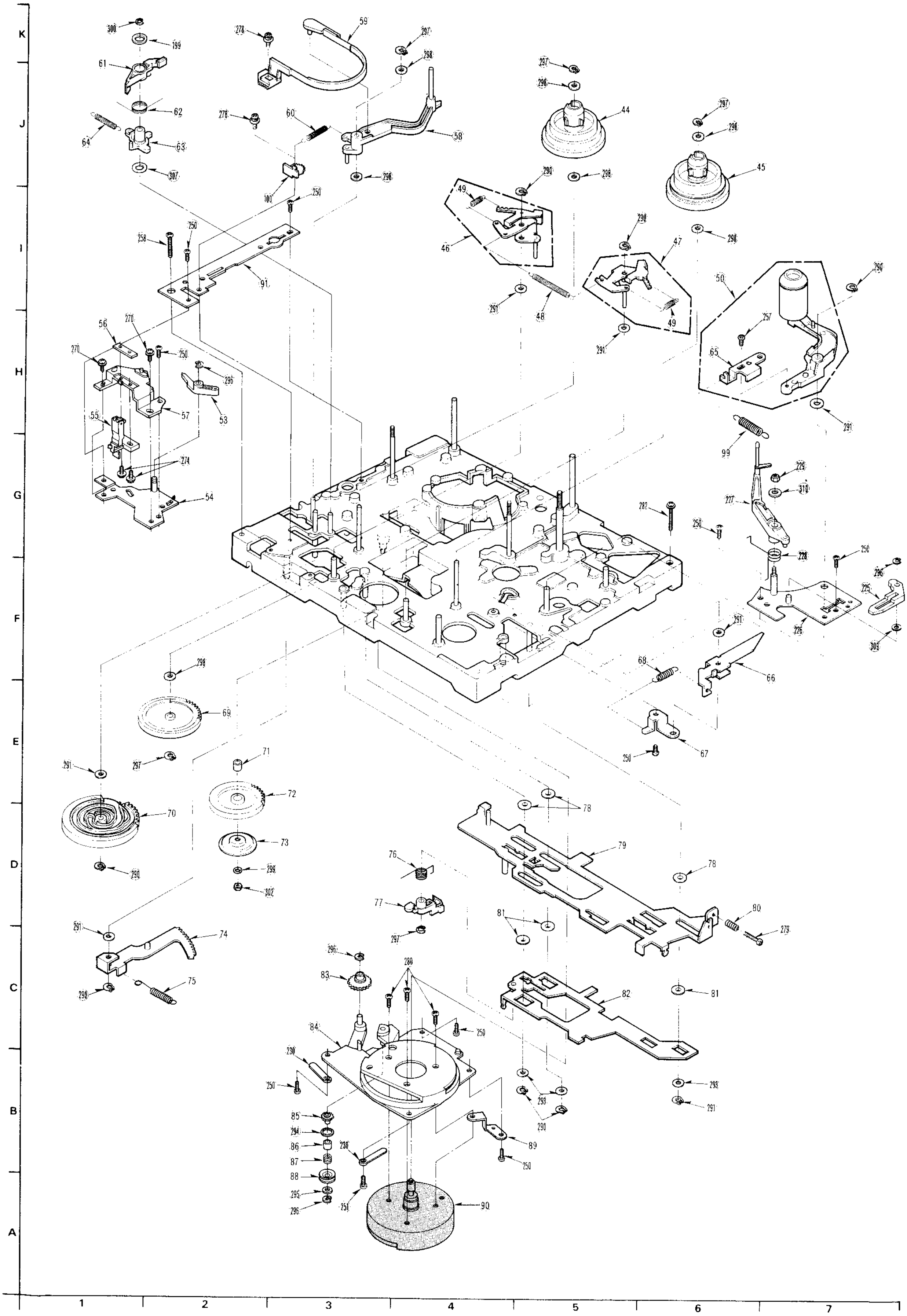
BOTTOM VIEW


Clutch Pulley (VDP0850)
Kick Gear (VDG0080)
Sector Gear Unit (VXL0988)
Cam Gear (VDG0069)
Action Gear (VDG0016)
Intermediate Gear (VDG0017)
Kick Pulley Belt (VDV0138)
Large Pulley (VDP0849)
Loading Gear Unit (VXP0325)
Belt Cover (VGF0021)
Loading Belt [2] (VDV0135)
Idler Pulley (VDP0750)
DD Cylinder Unit (VEG0284)
Loading Gear Unit (VXP0325)
Reel Motor (PRN3AC08A)
Main Lever Unit (VXL1149)
Mode Select Switch (VSS0060)
Sub Lever [1] Unit (VXL0984)
Thrust Holder Unit (VXA1576)
Kick Lever [1] (VML1469)
Capstan J Unit (VXP0443)
Capstan Belt (VDV0131)
Loading Intermediate Pulley (VDP0735)
Belt Holedr (VMD0133)
Loading Belt [1] (VDV0122)
MADE IN JAPAN

EXPLODED VIEWS ❶ *Transport Section*

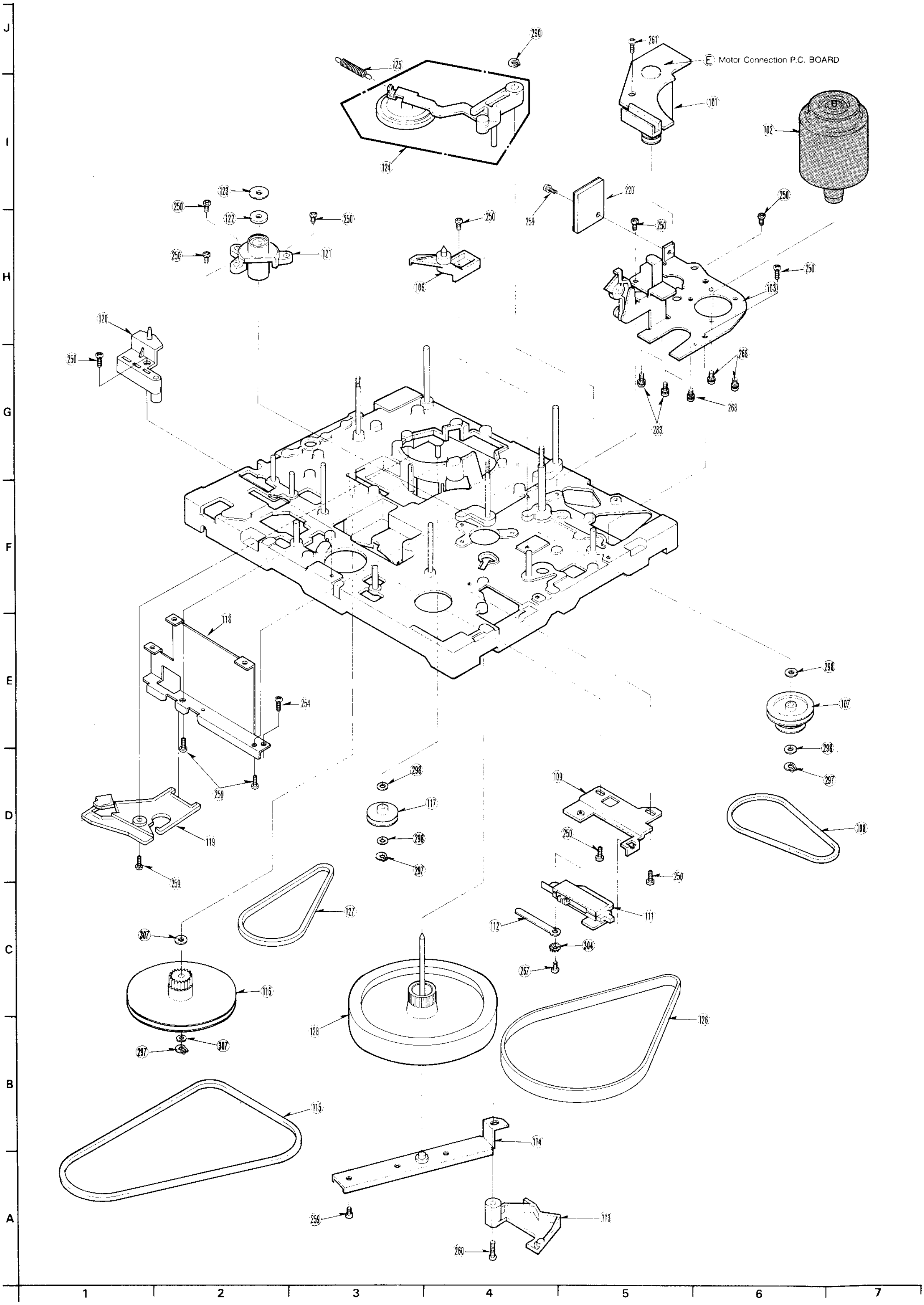

I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
5
270
12
13
275
6
290
7
14
15
291
271
8
272
269
4
3
1
11
5
270
9
314
E
Power Tr. P.C. Board (1)
10
271
8
250
250
258
250
18
16
268
250
258
250
17
19
20
24
21
21
22
22
26
23
23
27
16
268
290
290
28
29
30
32
33
34
40
36
37
281
273
301
38
39
51
277
25
E
LED P.C. Board
250
31
250
41
308
296
43
297
42
266
266
306
296
303
157
159
158
161
160
250
258

❷ Moving Mechanism Section-(1)



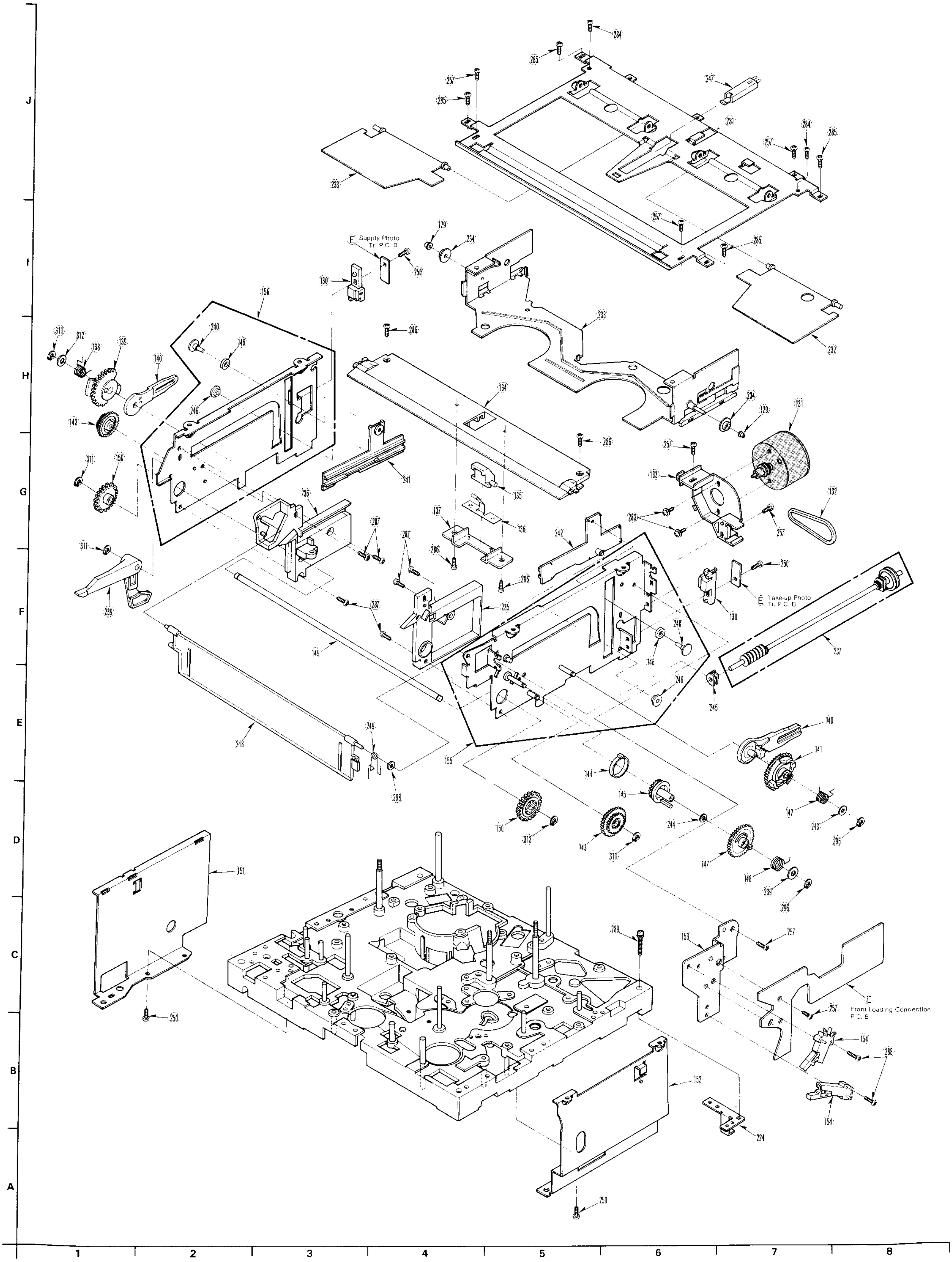
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
300
199
61
62
64
63
307
278
59
60
100
250
58
297
298
44
45
46
47
48
49
50
65
257
291
258
91
56
270
55
57
53
296
274
54
99
229
310
227
287
228
226
225
305
66
68
67
69
70
71
72
73
299
302
74
75
76
77
78
79
80
279
81
82
83
84
280
230
85
294
86
87
88
295
89
90
251
293
290

❸ Moving Mechanism Section-(2)

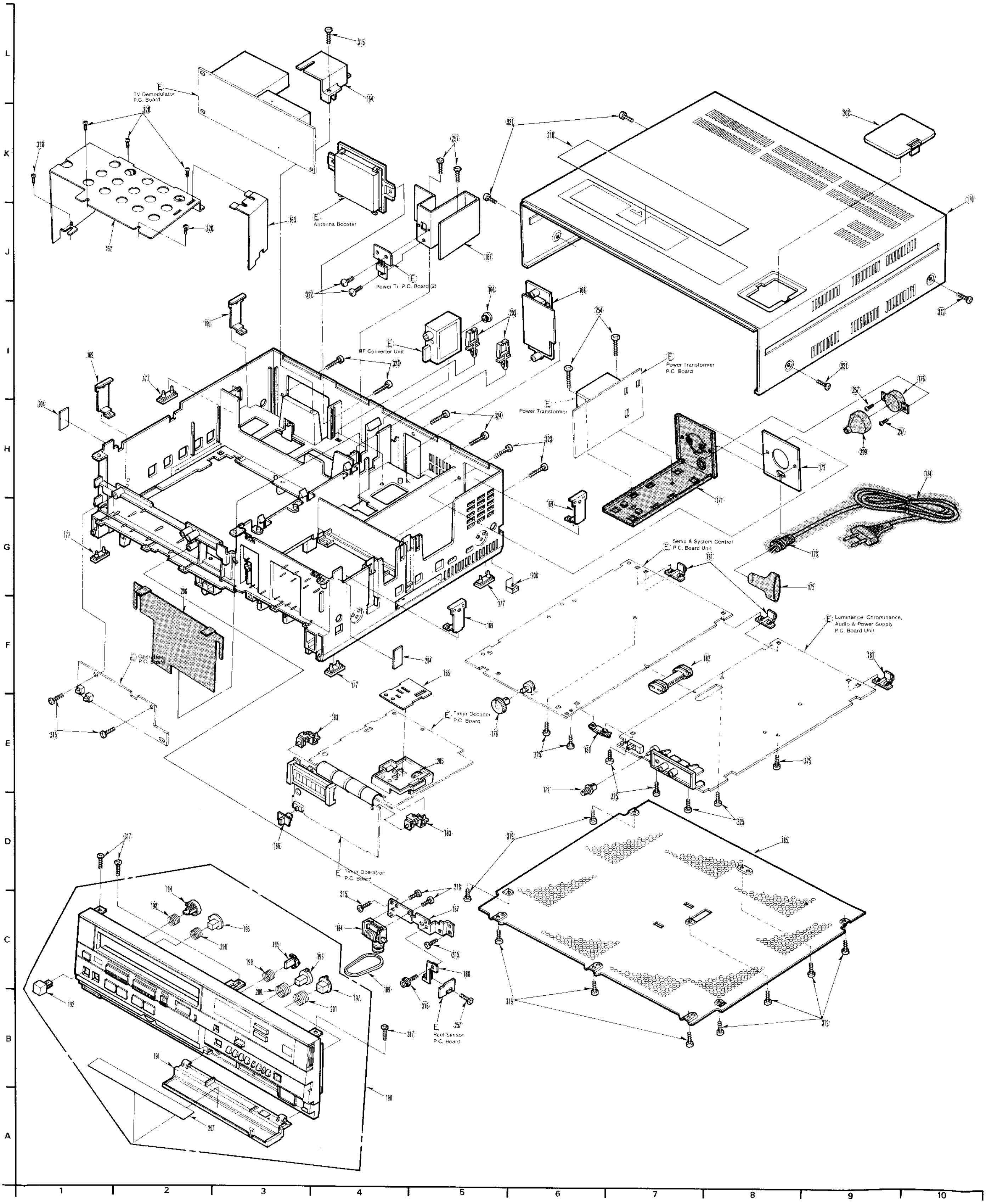


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
290
261
125
E Motor Connection P.C. BOARD
101
102
124
123
250
122
250
121
250
106
220
259
250
250
250
103
120
250
268
268
283
118
254
298
107
298
297
250
298
117
298
297
109
108
119
259
250
250
127
111
112
307
304
267
116
128
126
297
307
115
114
259
113
260

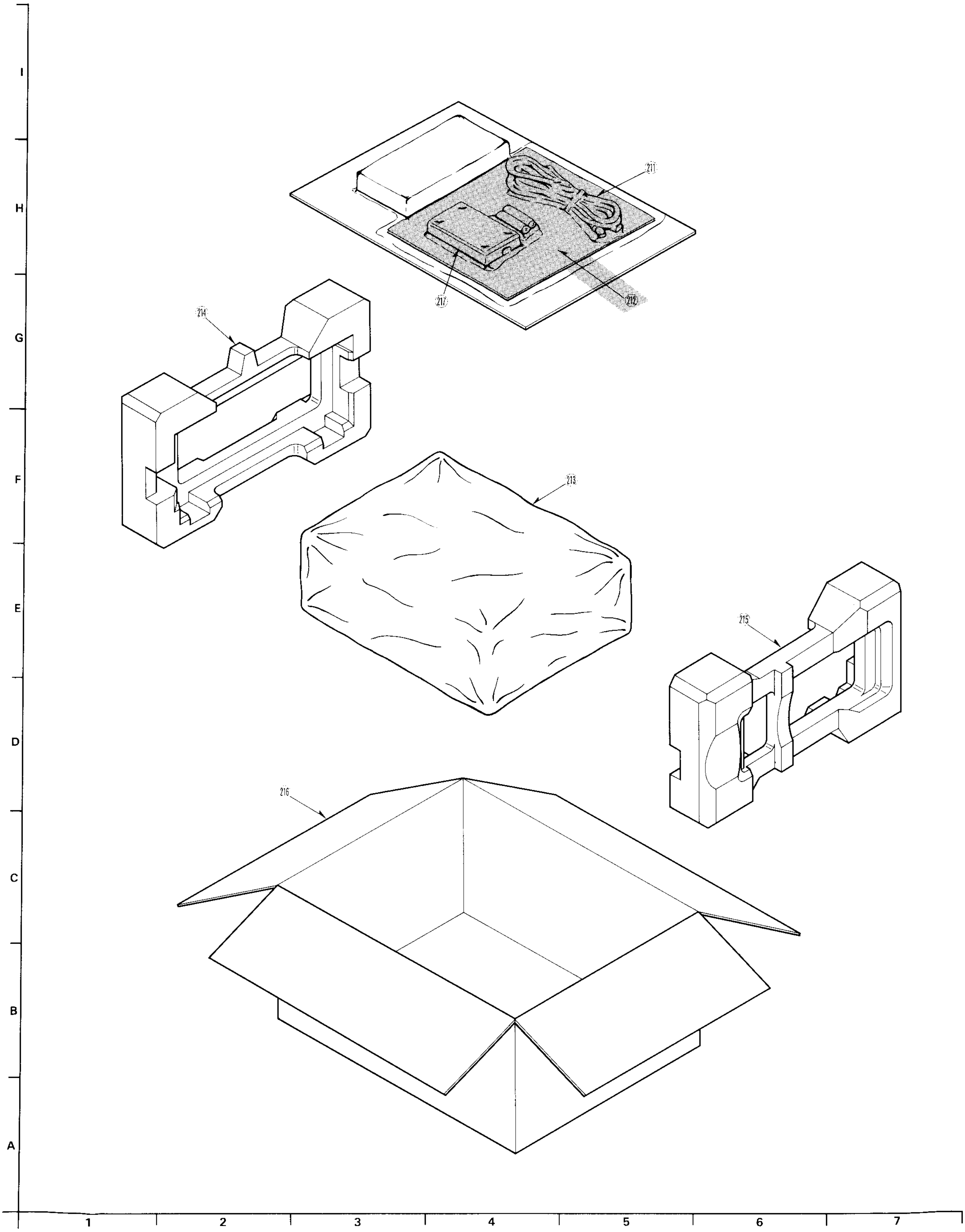
❹ Cassette Loading Mechanism Section


284
285
257
265
247
231
284
257
285
233
257
285
232
129
234
E Supply Photo Tr. P.C. B
250
130
238
156
240
146
311
312
138
139
140
246
143
286
134
234
129
131
311
150
286
257
133
241
135
236
137
136
283
132
257
287
287
286
242
311
286
250
130
E Take-up Photo Tr. P.C. B
239
287
235
240
146
237
149
246
245
248
249
155
140
141
144
145
142
243
296
298
150
313
143
311
244
147
148
239
296
151
289
153
257
257
E Front Loading Connection P.C. B
154
288
154
152
224
250
250
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8

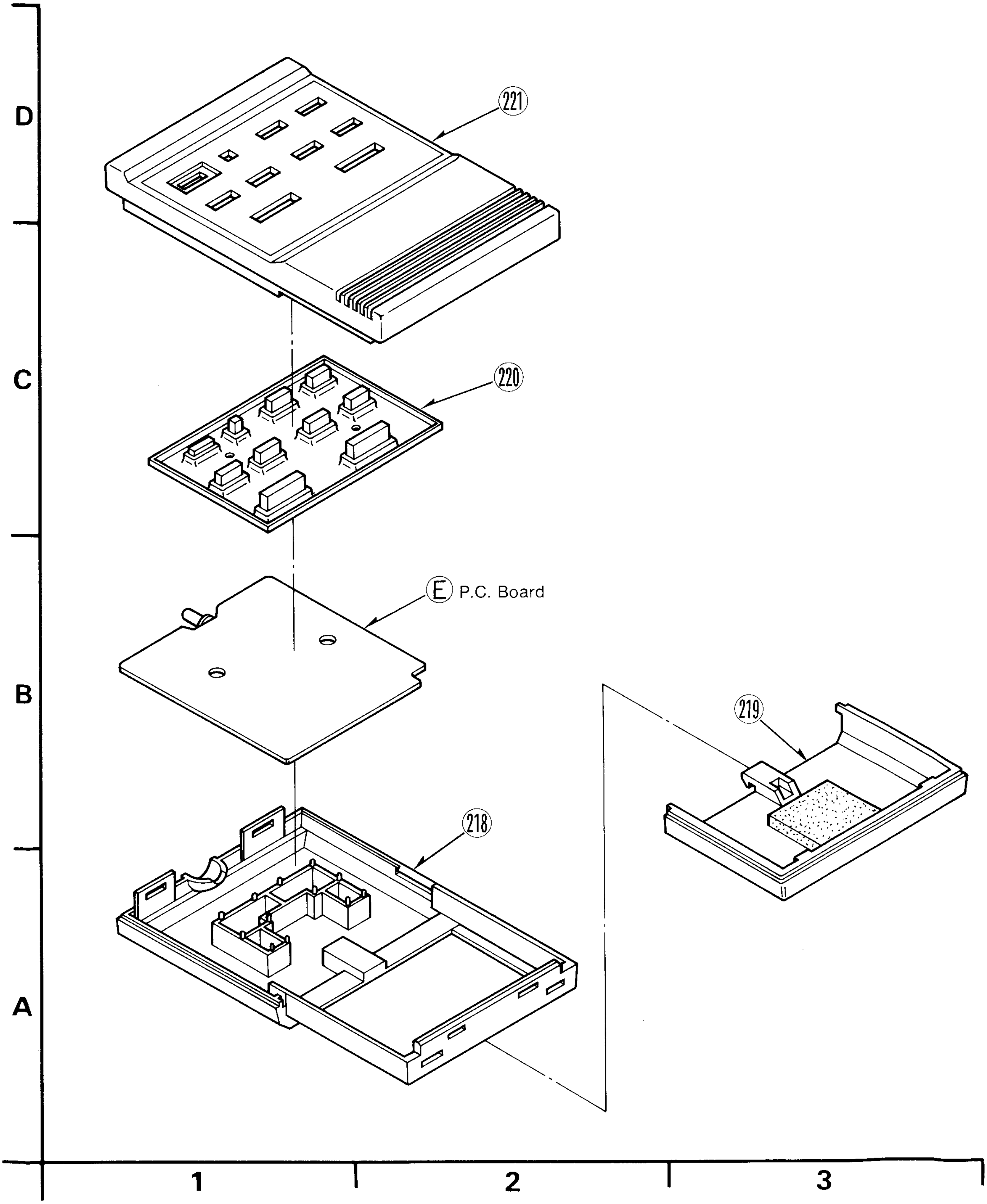
❺ *Chassis Frame & Cabinet Parts Section*


L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
315
164
E
TV Demodulator
P.C. Board
320
320
320
162
163
E
Antenna Booster
251
167
E
Power Tr. P.C. Board (2)
322
321
210
202
170
321
321
169
166
203
168
E
RF Converter Unit
323
254
E
Power Transformer
P.C. Board
E
Power Transformer
169
377
204
324
323
257
176
257
209
172
171
174
169
177
173
E
Servo & System Control
P.C. Board Unit
181
175
208
177
206
169
E
Operation
P.C. Board
204
177
E
Luminance Chrominance,
Audio & Power Supply
P.C. Board Unit
182
181
165
E
Timer Decoder
P.C. Board
178
315
183
205
325
180
325
179
325
325
183
186
319
185
E
Timer Operation
P.C. Board
317
194
198
193
200
315
318
187
184
315
195
199
196
200
197
201
189
188
316
257
E
Reel Sensor
P.C. Board
192
317
319
319
191
190
207

❻ Packing Parts Section

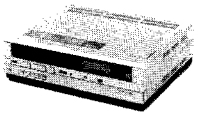

211
212
217
214
213
215
216
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7

⑦ *Remote Control Transmitter Section*


D
C
B
A
221
220
Ⓔ P.C. Board
219
218
1
2
3

MECHANICAL REPLACEMENT PARTS LIST

Model No. NV-600E/EN



Notes:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified by ⚠ have special characteristics important for safety.
When replacing any of these components, use only the original ones.

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
1(1)		VEG0284	DD Cylinder Unit	1	⚠
3(1)		VEH0209	Upper Cylinder Unit	1	
4(1)		VXA1584	Discharge Angle Unit	1	
5(1)		VXP0431	Roller Post Unit	2	
6(1)		VXA1191	Inclind Base (S) Unit	1	
7(1)		VXA1189	Shaft Holder (S) Unit	1	
8(1)		VMD0100	Post Stopper	2	
9(1)		VXA1084	Inclind Base (B) Unit	1	
10(1)		VXA1190	Shaft Holder (T) Unit	1	
11(1)		VMX0301	Guide Snap	1	
12(1)		VMD0369	Wire Holder	1	
13(1)		VBS0027	Erase Head	1	
14(1)		VML1470	Erase Head Lever	1	
15(1)		VMB1005	Erase Head Lever Spring	1	
16(1)		VMA4436	Shaft Holder Spring	2	
17(1)		VHN0014	"X" Adjust Nut	1	
18(1)		VXA1567	Loading Base 1 Unit	1	
19(1)		VXL0753	Loading Arm (L) Unit	1	
20(1)		VXL0754	Loading Arm (R) Unit	1	
21(1)		VMX0257	Arm Sleeve	2	
22(1)		VMB0669	Loading Spring	2	
23(1)		VXP0325	Loading Gear Unit	2	
24(1)		VHD0045	Nylon Nut	1	
25(1)		VMD0465	LED Holder	1	
26(1)		VMX0288	Collar	1	
27(1)		VDP0759	Supply Roller	1	
28(1)		VMX0456	Limiter (S)	1	
29(1)		VMX0457	Under Limiter	1	
30(1)		VMB0754	Supply Limiter Spring	1	
31(1)		VXA1909	Hall IC Base 1 Unit	1	
32(1)		XNG3BS	M3 Nut	1	
33(1)		VMX0280	Post Sleeve	1	
34(1)		VMB0699	P4 Spring	1	
36(1)		VHD0054	Adjust Screw	1	
37(1)		VMB0404	Adjust Spring	1	
38(1)		VXA1571	Head Base B Unit	1	
39(1)		VMB0997	A/C Head Height Spring	1	
40(1)		VBR0061	A/C Head	1	
41(1)		VML1433	Idler Stopper Lever	1	
42(1)		VMB0882	Idler Stopper Spring	1	
43(1)		VMB1083	Idler Pressure Spring	1	
44(2)		VXR0114	Supply Reel Table Unit	1	
45(2)		VXR0110	Take-up Reel Table Unit	1	
46(2)		VXL1041	Brake Arm (L) Unit	1	
47(2)		VXL1040	Brake Arm (R) Unit	1	
48(2)		VMB0661	Brake Arm Spring	1	
49(2)		VMB0660	Brake Lever Spring	2	
50(2)		VXP0485	Pressure Roller Unit	1	
51(2)		VXP0515	Idler Unit	1	
53(2)		VXL0875	S Brake Release Unit	1	
54(2)		VXA1707	Brake Release Base Unit	1	
55(2)		VSM0043	Safety Tab Switch	1	
56(2)		VMA5372	Nut Plate	1	
57(2)		VMA5826	Cassette Holder Angle	1	
58(2)		VXL0974	Tension Arm Unit	1	
59(2)		VXZ0129	Tension Band Unit	1	
60(2)		VMB1004	Tension Spring	1	
61(2)		VXZ0110	Soft Brake Arm Unit	1	
62(2)		VMB0710	Soft Brake Spring A	1	
63(2)		VML1372	Soft Brake Lever A	1	
64(2)		VMB1024	Soft Brake Spring	1	
65(2)		VMA6204	Spring Hook	1	
66(2)		VML1469	Kick Lever 1	1	
67(2)		VMA6212	Lever Holder	1	
68(2)		VMB0999	Kick Lever Spring 1	1	
69(2)		VDG0017	Intermediate Gear	1	
70(2)		VDG0069	Cam Gear	1	
71(2)		VMX0268	Action Gear Sleeve	1	
72(2)		VDG0016	Action Gear	1	
73(2)		VMA4088	Holder	1	
74(2)		VXL0988	Sector Gear Unit	1	
75(2)		VMB1002	Sub Rod Spring	1	
76(2)		VMB0890	Kick Lever Spring	1	
77(2)		VML1432	Kick Lever 2	1	
78(2)		VMX0122	Slide Washer	3	
79(2)		VXL1149	Main Lever Unit	1	
80(2)		VMB0680	Adjust Spring	1	
81(2)		VMX0471	Slide Washer	3	
82(2)		VXL0984	Sub'Lever 1 Unit	1	
83(2)		VDG0080	Kick Gear	1	
84(2)		VXA1708	Reel Motor Bracket 1 Unit	1	
85(2)		VDG0081	Clutch Gear	1	
86(2)		VMX0405	Clutch Collar	1	
87(2)		VMB0897	Clutch Spring	1	
88(2)		VDP0850	Clutch Pulley	1	
89(2)		VMA6055	Earth Angle	1	
90(2)		PRN3AC08A	Reel Motor	1	⚠
91(2)		VMA6052	Position Plate	1	
99(2)		VDM1001	Pressure Spring	1	
100(2)		VMA5813	Adjust Hook	1	
101(3)		VEM0135	Loading Motor	1	
102(3)		MAX13V9LP	Capstan Motor	1	⚠
103(3)		VXA1815	Motor Bracket 1 Unit	1	
104(3)		VEK1867	Dew Sensor Unit	1	
106(3)		VMD0502	Place Fix Bracket	1	
107(3)		VDP0735	Loading Intermediate Pulley	1	
108(3)		VDV0122	Loading Belt (1)	1	
109(3)		VMA6126	Mode Select Switch Angle	1	
111(3)		VSS0060	Mode Select Switch	1	
112(3)		VJR3	Clamper	1	
113(3)		VMD0133	Belt Holder	1	
114(3)		VXA1576	Thrust Holder Unit	1	
115(3)		VDV0135	Loading Belt (2)	1	
116(3)		VDP0849	Large Pulley	1	
117(3)		VDP0750	Idler Pulley	1	
118(3)		VMA6053	Chassis Bracket	1	
119(3)		VGF0021	Belt Cover	1	
120(3)		VMD0442	Brake Release Lever	1	
121(3)		VXD0072	Capstan Holder Unit	1	
122(3)		VMD0104	Oil Pool	1	
123(3)		VMX0251	Oil Seal	1	
124(3)		VXP0488	Play Idler Unit	1	
125(3)		VMB1003	Play Idler Spring	1	
126(3)		VDV0131	Capstan Belt	1	
127(3)		VDV0138	Kick Pulley Belt	1	
128(3)		VXP0443	Capstan J Unit	1	
129(4)		VDP0903	Wiper Arm Roller	2	
130(4)		VMD0091	Photo Tr Bracket (L) (R)	2	
131(4)		MXN12AE10C	Motor	1	⚠
132(4)		VDV0074	Loading Belt	1	
133(4)		VMD0499	Motor Bracket	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
134(4)	VMD0452	Cassette Guide	1	
135(4)	VMD0453	Safety Tab Knob	1	
136(4)	VMB1091	Safety Tab Spring	1	
137(4)	VMD0454	Spring Holder	1	
138(4)	VMB1089	Wiper Spring (L)	1	
139(4)	VDG0115	Wiper Gear	1	
140(4)	VML1436	Wiper Arm	2	
141(4)	VDG0116	Wiper Gear	1	
142(4)	VMB1090	Wiper Spring (R)	1	
143(4)	VDG0120	Gear	2	
144(4)	VMD0456	Stopper Ring	1	
145(4)	VDG0118	Clutch Gear	1	
146(4)	VDP0839	Guide Roller	4	
147(4)	VDG0117	Worm Wheel	1	
148(4)	VMB1093	Clutch Spring	1	
149(4)	VMS2304	Main Shaft	1	
150(4)	VDG0119	Shaft Gear	2	
151(4)	VMA6063	Chassis Holder Angle (L)	1	
152(4)	VMA6062	Chassis Holder Angle (R)	1	
153(4)	VMA6073	Switch Angle	1	
154(4)	VSM0046	Switch	1	
155(4)	VXA1978	Side Plate (R) Unit	1	
156(4)	VXA1717	Side Plate (L) Unit	1	
157(1)	VXL1059	Soft Brake (T) Unit	1	
158(1)	VMB0886	Soft Brake Spring (T)	1	
159(1)	VDP0792	Counter Pulley	1	
160(1)	VXA1640	Chassis Angle (R) 1 Unit	1	
161(1)	VDV0146	Counter Belt (B)	1	
162(5)	VSC0941	Shield Plate	1	
163(5)	VSC0999	Heat Shield Plate	1	
164(5)	VGQ0485	TV Demodurator P.C.B Holder	1	
165(5)	VGN1993	Preset VR Plate	1	
166(5)	VMG0272	RF Converter Bushing	1	
167(5)	VSC1045	Heat Sink	1	for Power Transistor
				P.C. Board (2)
168(5)	VEK2027	Rear Jack Unit	1	
169(5)	VMP0339	Top Hold Angle	4	
170(5)	VYP0857	Top Panel Unit	1	NV-600EN
170(5)	VYP0858	Top Panel Unit	1	NV-600E
171(5)	VMP0369	Power Transformer Angle	1	⚠
172(5)	VGH0055	Power Name Plate	1	NV-600EN
172(5)	VGH0054	Power Name Plate	1	NV-600E
173(5)	VJF0107	Cord Bushing	1	⚠
174(5)	VJA0111	AC Cord	1	⚠
175(5)	VMX0237	AC Cord Cover	1	⚠
176(5)	VSR0019	Voltage Selector	1	NV-600EN only ⚠
177(5)	VKA0026	Rubber Foot	4	
178(5)	VGT0311	Tracking Knob	1	
179(5)	VGU0993	Picture Knob	1	
180(5)	VKC0083	Hinge (Front)	1	
181(5)	VKC0055	Hinge (Rear)	3	
182(5)	VJF0112	P.C. Boards Jointer	1	
183(5)	VKC0076	Hinge (Timer)	2	
184(5)	VDC0034	Counter	1	
185(5)	VKU0198	Bottom Plate	1	
186(5)	VGU0992	Mode Select Switch	1	
187(5)	VMA6208	Counter Angle	1	
188(5)	VMA6209	Counter Sub Angle	1	
189(5)	VDV0139	Counter Belt (A)	1	
190(5)	VYP0855	Front Panel Unit	1	NV-600EN
190(5)	VYP0856	Front Panel Unit	1	NV-600E
191(5)	VKF0284	Timer Door	1	NV-600EN
191(5)	VKF0286	Timer Door	1	NV-600E

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
192(5)	VGU0983	Power Button	1	NV-600EN
192(5)	VGU0989	Power Button	1	NV-600E
193(5)	VGU0984	TV-VTR Button	1	NV-600EN only
194(5)	VGQ0298	Button Holder	1	
195(5)	VGU0543	Counter Reset Button	1	NV-600E
195(5)	VGU0990	Counter Reset Button	1	NV-600EN
196(5)	VGU0988	Memory Button	1	NV-600EN
196(5)	VGU0991	Memory Button	1	NV-600E
197(5)	VGU0850	Timer Rec Button	1	
198(5)	VMB0904	Button Spring	1	
199(5)	VMB1043	Button Spring	1	
200(5)	VMB0909	Button Spring	2	(NV-600E; 1 piece)
201(5)	VMB1133	Button Spring	1	
202(5)	VYF0293	Preset Cover	1	NV-600EN
202(5)	VYF0267	Preset Cover	1	NV-600E
203(5)	VJF0031	Wire Saddle	2	
204(5)	VMT0085	Cushion Rubber	2	
205(5)	VGQ0415	Preset VR Case	1	
206(5)	VMZ0528	Heat Sink Barrier	1	⚠
207(5)	VQL2179	Timer Level	1	
208(5)	VMP0393	Earth Clip	1	
209(5)	VMX0399	Switch Cover	1	⚠
210(6)	VQL2183	Characteristic Sticker	1	
211(6)	VJA0130	DIN RF Cable	1	
212(6)	VQF1108	Fan Bag Kit	1	NV-600EN ⚠
212(6)	VQF1107	Fan Bag Kit	1	NV-600E ⚠
213(6)	VPF0144	Polyethylene Bag	1	
214(6)	VPN0929	Cushion (L)	1	
215(6)	VPN0928	Cushion (R)	1	
216(6)	VPG1488	Packing Case	1	NV-600EN
216(6)	VPG1486	Packing Case	1	NV-600E
217(7)	VSQ0305	Remote Controller	1	NV-600E
217(7)	VSQ0306	Remote Controller	1	NV-600EN
218(7)	VYK0630	Bottom Case Unit	1	VSQ0305(NV-600E)
218(7)	VYK0631	Bottom Case Unit	1	VSQ0306(NV-600EN)
219(7)	VYF0285	Battery Cover Unit	1	
220(7)	VGU0978	Rubber Plate	1	
221(7)	VKM0246	Top Case	1	VSQ0305(NV-600E)
221(7)	VKM0247	Top Case	1	VSQ0306(NV-600EN)
224(2)	VMA6207	Chassis Angle	1	
225(2)	VML1473	Cam Lever	1	
226(2)	VXA1801	P5 Post Base 1 Unit		
227(2)	VXL1096	Pull Out (P5) Arm Unit	1	
228(2)	VMB1131	P5 Arm Spring	1	
229(2)	VHN0023	Nylon Nut	1	
230(3)	VJR3	Clamper	2	
231(4)	VMA6074	Top Plate	1	
232(4)	VMD0562	Plate (R)	1	
233(4)	VMD0561	Plate (L)	1	
234(4)	VDP0902	Cassette Holder Roller	2	
235(4)	VMD0459	Front Guide (R)	1	
236(4)	VMD0449	Front Guide (L)	1	
237(4)	VXA1754	Worm Shaft Pulley Unit	1	
238(4)	VXA1714	Cassette Holder 1 Unit	1	
239(4)	VML1437	Front Opener Link	1	
240(4)	VMS2305	Slider Roller Pin	2	
241(4)	VMD0448	Slider (L)	1	
242(4)	VMD0450	Slider (R)	1	
243(4)	VMX0530	Clutch Washer	1	
244(4)	VMX0531	Clutch Spacer	1	
245(4)	VDB0660	Worm Shaft Metal	1	
246(4)	VMX2468	Slider Roller Pin	2	
247(4)	VSM0047	Cassette Detect Switch	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
248(4)	VKF0266	Blinder Panel	1	
249(4)	VMB1171	Blinder Spring	1	
		Screws		
250(1,2,3,4,5)	XTV3+8BFN		34	
251(3,5)	XTV3+10G		4	
252(5)	XTV3+8G		1	
253(5)	XTV4+10A		3	
254(3,5)	XTV4+15A		3	
257(2,4,5)	XTV3+6F		11	
258(1,2)	VHD0128		2	
259(3)	XTV3+10BFN		3	
260(3)	XTV3+18BFN		1	
261(3)	XTV3+C6S		1	
263(4)	XSN3+8S		1	
266(1,4)	XSN3+8S		4	
267(3)	XSN3+10S		1	
268(1,3)	XYN3+C5S		7	
269(1,3)	XSN3+6S		2	
270(1,2)	XSN3+8S		5	
271(1)	XSN3+12S		4	
272(1)	XSN3+10BNS		2	
273(1)	VHD0089		1	
274(2)	XSN2+10		2	
275(1)	XTN26+6B		1	
277(1)	XSS26+6		1	
278(2)	XYC3+F6S		1	
279(2)	XSN3+10S		1	
280(2)	XSS3+4S		3	
281(1)	XSN3D+10S		1	
282(2)	XYN4+C30S		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
283(3,4)	XYN3+C4S		4	
284(4)	XTS3+8F		2	
285(4)	XYN3+F8RS		4	
286(4)	XTB3+8GK		4	
287(4)	XTB3+8FK		6	
288(4)	XYN2+10F		2	
289(4)	XYN4+C25S		1	
314(1)	XYN3+K8		1	
315(5)	XTV3+10GR		12	
316(5)	XTV3+F6S		1	
317(5)	XTW3+8PR		3	
318(5)	XTN26+6G		1	
319(5)	VHD0059		9	
320(5)	XTV3+8JR		4	
321(5)	VHD0117		4	
322(5)	XTV3+8J		2	
323(5)	XSB3+8FZS		4	
324(5)	XSB3+10JFZ		2	
325(5)	XTV3+10JR		7	
		Washers & Rings		
290(1,2,3)	XUEV4VW		10	
291(1,2,3,4)	XWGV4D9G		7	
293(2)	XWXV4D11		3	
294(2)	XWXV51F66		1	
295(2)	XWGV3Z6G		1	
296(1,2,3,4)	XUC25FT		6	
297(2,3,4)	XUEV3VW		4	
298(2,3)	XWXV3D6G		18	
299(2)	XWA3B		1	
300(2)	XUC15FT		2	
302(2)	XNG3ES		1	
303(1,2,3)	XWXV2D4G		4	
304(3)	XWC3B		1	
306(1)	XUEV2VW		2	
307(2,3)	XWXV3D		2	
308(1)	XWXV4Y6.5		1	
309(2)	XWXV3A6		1	
310(2)	XWXV3.5F7.8		1	
311(4)	XUC3FP		5	
312(4)	XWGV4D9		1	
313(4)	XUC4FP		1	

ELECTRICAL REPLACEMENT PARTS LIST

Model No. NV-600E/EN

Notes:

1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/4 W ± 5% carbon. K=1,000Ω, M=1,000 KΩ.
   All capacitors are in MICROFARADS (μF), ± 10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP02176A	Servo & System Control P.C. Board Unit	1	⚠
	VEP03191A	Luminance, Chrominance, Audio & Power Supply P.C. Board Unit	1	⚠
	VEP06204A	Operation P.C. Board Unit	1	NV-600EN
	VEP06204B	Operation P.C. Board Unit	1	NV-600E
	VEP07177A	TV Demodulator P.C. Board Unit	1	NV-600EN ⚠
	VEP07177B	TV Demodulator P.C. Board Unit	1	NV-600E ⚠
	VEP07178A	Timer Operation P.C. Board Unit	1	
	VEP07179A	Timer Decoder P.C. Board Unit	1	⚠
	VEP22016	IR Remote Control Transmitter P.C.Board Unit	1	
	VJB00A08	Motor Connection P.C. Board	1	
	VJB00A09	Front Loading Connection P.C. Board	1	
	VJB00A10	Reel Sensor P.C. Board	1	
	VJB00A11	Power Transistor (1) P.C. Board	1	
	VJB00A62	Power Transistor (2) P.C. Board	1	
	VJB00636	Take up Photo Transistor P.C. Board	1	
	VJB00712	IR Remote Control Receiver P.C. Board	1	
	VJB00744	Supply Photo Transistor P.C. Board	1	
	VJB00976	Sensor LED P.C. Board	1	
	VJB01133	Power Transformer P.C. Board	1	⚠
	ENC17506	RF Converter	1	NV-600EN ⚠
	ENC17571	RF Converter	1	NV-600E ⚠
T1501	ETP66PS275A	Power Transformer	1	NV-600EN ⚠
T1501	ETP66PS273E	Power Transformer	1	NV-600E ⚠
	ENPE728	Antenna Booster	1	NV-600EN ⚠
	ENPE725	Antenna Booster	1	NV-600E ⚠
		Fuse		
F1501	XBA2C10TROC	1A	1	⚠
F1502	XBA2C25TROC	2.5A	1	⚠
F1503	XBA2C10TROC	1A	1	⚠
	VSC1042	Shield Case (Top)	1	(For Head Amp Section)
	XTV3+8J	Screw (For Heat Sink)	2	
	VSC1045	Heat Sink (For Q1201)	1	
	XTV3+8J	Screw (For Heat Sink)	2	
	VEP02176A	Servo & System Control P.C. Board Unit		⚠
		(Servo Section)		
		Integrated Circuits		
IC2001	μPC1504C1		1	
IC2002	AN6677		1	
IC2003	μPC1505C1		1	
IC2004	BA855		1	
		Transistors		
Q2005-2008	2SD636		4	(Q,R,S)
Q2009	2SB641		1	(Q,R,S)
Q2010	2SD946		1	(P,Q,R)
Q2014-2016	2SD636		3	(Q,R,S)
Q2017	2SD889		1	(Q,R,S) or 2SD1206
Q2018	2SD1265		1	(O,P,Q)
Q2019	2SB643		1	(Q,R,S) or 2SA719
Q2020	2SD892		1	(Q,R) or 2SD1205(Q,R)
Q2021	2SD636		1	(Q,R,S)
Q2022	2SB641		1	(Q,R,S)
Q2027	2SD636		1	(Q,R,S)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Combination Part		
		(Transistor & Resistor)		
QR2001	DTC144A		1	
		Diodes		
D2001	MA165		1	
D2003-2009	MA165		7	
D2012,2013	MA165		2	
D2015	MA165		1	
D2016	RD20EB2	Zener	1	
D2017	MA165		1	
D2023	MA165		1	
D2026	10E1		1	
D2027,2028	MA165		2	
		Resistors		
R2001	ERDS2TJ104	100K	1	
R2002	ERDS2TJ103	10K	1	
R2003	ERDS2TJ223	22K	1	
R2004,2005	EVNK6AA00B54	Variable 50K	2	
R2006	EVNK6AA00B15	Variable 100K	1	
R2007	EVMK4GA00B54	Variable 50K	1	
R2008,2009	ERDS2TJ153	15K	2	
R2010	ERDS2TJ823	82K	1	
R2011	ERDS2TJ104	100K	1	
R2012	ERDS2TJ223	22K	1	
R2013	ERC14GJ275	Solid 2.7M	1	
R2014	ERDS2TJ152	1.5K	1	
R2025	ERDS2TJ682	6.8K	1	
R2026	ERDS2TJ473	47K	1	
R2027	ERDS2TJ224	220K	1	
R2028	ERDS2TJ682	6.8K	1	
R2029	ERDS2TJ473	47K	1	
R2030	ERDS2TJ224	220K	1	
R2031	ERD2FCJ101P	100	1	⚠
R2032	EVJEFAF20B15	Variable 100K	1	
R2033	EVNK6AA00B15	Variable 100K	1	
R2034	ERDS2TJ223	22K	1	
R2035	ERDS2TJ104	100K	1	
R2036	ERDS2TJ103	10K	1	
R2037	ERDS2TJ562	5.6K	1	
R2038	EROS2CKG9102	Metal 91K	1	
R2039	EVMK4GA00B54	Variable 50K	1	
R2040	ERDS2TJ683	68K	1	
R2041	ERDS2TJ332	3.3K	1	
R2042	ERDS2TJ184	180K	1	
R2043	ERDS2TJ103	10K	1	
R2044	ERDS2TJ222	2.2K	1	
R2045	ERDS2TJ562	5.6K	1	
R2046	ERDS2TJ223	22K	1	
R2047	ERDS2TJ563	56K	1	
R2048,2049	ERDS2TJ823	82K	2	
R2050	ERDS2TJ333	33K	1	
R2051	ERDS2TJ332	3.3K	1	
R2052	ERX12ANJR47	Metal 1/2W 0.47	1	
R2053-2055	ERDS2TJ220	22	3	
R2056	ERDS2TJ153	15K	1	
R2057	ERDS2TJ392	3.9K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R2058	ERDS2TJ273	27K	1	
R2059	ERQ1CJP6R8S	Fuse Resistor 1W 6.8	1	⚠
R2060	ERDS2TJ105	1M	1	
R2061	ERDS2TJ183	18K	1	
R2062	ERC14GJ275	Solid 2.7M	1	
R2063	ERDS2TJ223	22K	1	
R2064	ERDS2TJ221	220	1	
R2065	ERDS2TJ104	100K	1	
R2066	ERDS2TJ332	3.3K	1	
R2069	EROS2CKG5102	Metal 2W 51K	1	
R2070	EVMK4GA00B24	Variable 20K	1	
R2073	ERDS2TJ563	56K	1	
R2077	ERDS2TJ822	8.2K	1	
R2078	ERDS2TJ104	100K	1	
R2079	ERDS2TJ124	120K	1	
R2080	ERDS2TJ123	12K	1	
R2081	EROS2TKG3301	Metal 3.3K	1	
R2087	ERDS2TJ124	120K	1	
R2088	ERDS2TJ562	5.6K	1	
R2089	ERDS2TJ123	12K	1	
R2090	ERDS2TJ102	1K	1	
R2091	ERDS2TJ473	47K	1	
R2092	ERDS2TJ153	15K	1	
R2093	ERDS2TJ154	150K	1	
R2094	ERDS2TJ104	100K	1	
R2095	ERDS2TJ102	1K	1	
R2096	ERQ14AJ390P	Fuse Resistor 39	1	⚠
R2097	ERDS2TJ821	820	1	
R2098	ERDS2TJ563	56K	1	
R2099	ERDS2TJ273	27K	1	
R2100	ERDS2TJ223	22K	1	
R2101	ERDS2TJ103	10K	1	
R2102	EVLV3U00MB15	Variable 100K	1	
R2103	ERDS2TJ184	180K	1	
R2104,2105	ERDS2TJ473	47K	2	
R2106	EVNK6AA00B15	Variable 100K	1	
R2107	ERDS2TJ104	100K	1	
R2109	ERDS2TJ124	120K	1	
R2111	ERDS2TJ154	150K	1	
R2113	EROS2CKG5102	Metal 2W 51K	1	
R2114	EROS2CKG3002	Metal 2W 30K	1	
R2115	ERDS2TJ563	56K	1	
R2116	ERDS2TJ223	22K	1	
R2117	ERDS2TJ222	2.2K	1	
R2118	ERDS2TJ153	15K	1	
R2119	ERDS2TJ823	82K	1	
R2125	ERDS2TJ153	15K	1	
R2126	ERDS2TJ682	6.8K	1	
R2127	ERDS2TJ390	39	1	
R2128	ERDS2TJ473	47K	1	
R2134	ERDS2TJ224	220K	1	
R2135	ERDS2TJ473	47K	1	
R2136,2137	ERDS2TJ183	18K	2	
		Capacitors		
C2001	ECQM1H472KV	Mylar 50V 4700P	1	
C2002	ECEA1HN010	Electrolytic 50V 1	1	
C2003	ECKF1H103ZF	Ceramic 50V 0.01	1	
C2004	ECEA1CK100	Electrolytic 16V 10	1	
C2005	ECQV05563JZ	Mylar 50V 0.056	1	
C2006,2007	ECQM1H683JZ	Mylar 50V 0.068	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C2008	ECQM1H333JZ	Mylar 50V 0.033	1	
C2009	ECQM1H683JZ	Mylar 50V 0.068	1	
C2010	ECQM1H223JZ	Mylar 50V 0.022	1	
C2011	ECQM1H224JZ	Mylar 50V 0.22	1	
C2012	ECEA0JS101	Electrolytic 6.3V 100	1	
C2013	ECQM1H103JZ	Mylar 50V 0.01	1	
C2014	ECEA1AS330	Electrolytic 10V 33	1	
C2015	ECQM1154JZ	Mylar 100V 0.15	1	
C2016	ECQM1H393JZ	Mylar 50V 0.039	1	
C2017	ECQM1H683JZ	Mylar 50V 0.068	1	
C2018	ECEA1CK220	Electrolytic 16V 22	1	
C2019	ECQM1182JZ	Mylar 100V 1800P	1	
C2020,2021	ECQM1H222JZ	Mylar 50V 2200P	2	
C2022	ECEA1HK2R2	Electrolytic 50V 2.2	1	
C2023-2025	ECEA50ZR22	Electrolytic 50V 0.22	3	
C2026	ECQM1H822JZ	Mylar 50V 8200P	1	
C2027	ECEA1CS100	Electrolytic 16V 10	1	
C2028	ECEA1HS3R3	Electrolytic 50V 3.3	1	
C2029	ECQM1H333JZ	Mylar 50V 0.033	1	
C2030-2032	ECEA1HN2R2	Electrolytic 50V 2.2	3	
C2033	ECQM1H103JZ	Mylar 50V 0.01	1	
C2034	ECEA1CS101	Electrolytic 16V 100	1	
C2035	ECEA1HS010	Electrolytic 50V 1	1	
C2036	ECEA50ZR47	Electrolytic 50V 0.47	1	
C2037	ECQM1104JZ	Mylar 100V 0.1	1	
C2038	ECEA1CK100	Electrolytic 16V 10	1	
C2039	ECQM1H683JZ	Mylar 50V 0.068	1	
C2041	ECQM1H333JZ	Mylar 50V 0.033	1	
C2042	ECEA0JS470	Electrolytic 6.3V 47	1	
C2043	ECQV05104JB	Mylar 50V 0.1	1	
C2044	ECQM1H104JZ	Mylar 50V 0.1	1	
C2045	ECQM1H274JZ	Mylar 50V 0.27	1	
C2046	ECQM1H223JZ	Mylar 50V 0.022	1	
C2047	ECEA1CK100	Electrolytic 16V 10	1	
C2048	ECEA1ASS101	Electrolytic 10V 100	1	
C2049	ECEA1CK100	Electrolytic 16V 10	1	
C2054	ECEA1CS100	Electrolytic 16V 10	1	
C2055	ECKF1H103ZF	Ceramic 50V 0.01	1	
C2056	ECQM1H472JZ	Mylar 50V 4700P	1	
C2057	ECQV05103JZ	Mylar 50V 0.01	1	
C2058	ECQM1H224JZ	Mylar 50V 0.22	1	
C2059	ECQV05683JZ	Mylar 50V 0.068	1	
C2060	ECQV05273JZ	Mylar 50V 0.027	1	
C2061	ECQV05683JZ	Mylar 50V 0.068	1	
C2062	ECQM1H272JZ	Mylar 50V 2700P	1	
C2063	ECQM1H682JZ	Mylar 50V 6800P	1	
C2064	ECQM1H123JZ	Mylar 50V 0.012	1	
C2065	ECQM1H103JZ	Mylar 50V 0.01	1	
C2066	ECEA1CK100	Electrolytic 16V 10	1	
C2067	ECEA16Z6R8	Electrolytic 16V 6.8	1	
C2068	ECEA1CK470	Electrolytic 16V 47	1	
C2069	ECEA1ES220	Electrolytic 25V 22	1	
C2072	ECQM1H822JZ	Mylar 50V 8200P	1	
C2073	ECEA1CK100	Electrolytic 16V 10	1	
C2074	ECQP1822JZ	Mylar 100V 8200P	1	
		Coil		
L2001	VLQEL06F102K	1mH	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Relay		
RY2001	VSY2032		1	
		Connectors		
P001	VJP1239	12P	1	
P2001	VJP1229	2P	1	
		(System Control Section)		
		Integrated Circuits		
IC6001	MN1405VKU		1	
IC6002	BA6250		1	or AN90D21
IC6003	AN90B22		1	
IC6004	AN6912		1	or μPC339C
IC6005-6007	TA7267P		3	
IC6008	AN6562		1	or μPC358C
IC6009	μPD4069UBC		1	
		Transistors		
Q6001-6004	2SA719		4	
Q6005-6009	2SD636		5	
Q6010	2SB641		1	
Q6011	2SD636		1	
Q6012	2SB641		1	
Q6013	2SD1273		1	
Q6014,6015	2SD636		2	
Q6016	2SB641		1	
Q6017	2SD1273		1	
Q6018	2SB641		1	
Q6019	2SD636		1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Diodes		
D6001-6039		MA165		39	
D6041		0A90		1	
D6042-6047		MA165		6	
D6049-6055		MA165		7	
D6057-6059		MA165		3	
D6061-6068		MA165		8	
			Resistors		
R6001		ERDS2TJ152	1.5K	1	
R6002		ERDS2TJ102	1K	1	
R6003		ERDS2TJ152	1.5K	1	
R6004		ERDS2TJ102	1K	1	
R6005		ERDS2TJ103	10K	1	
R6006,6007		ERDS2TJ152	1.5K	2	
R6008,6009		ERDS2TJ103	10K	2	
R6010		ERDS2TJ393	39K	1	
R6011		ERDS2TJ223	22K	1	
R6012		ERDS2TJ153	15K	1	
R6013		ERDS2TJ563	56K	1	
R6014		ERDS2TJ333	33K	1	
R6015		ERDS2TJ103	10K	1	
R6016,6017		ERDS2TJ124	120K	2	
R6018,6019		ERDS2TJ103	10K	2	
R6020,6021		ERDS2TJ333	33K	2	
R6022		ERDS2TJ682	6.8K	1	
R6023		ERDS2TJ223	22K	1	
R6024		ERDS2TJ103	10K	1	
R6025		ERDS2TJ272	2.7K	1	
R6026		ERDS2TJ222	2.2K	1	
R6027		ERDS2TJ681	680	1	
R6028		ERDS2TJ222	2.2K	1	
R6029		ERDS2TJ152	1.5K	1	
R6030		ERDS2TJ103	10K	1	
R6031		ERDS2TJ333	33K	1	
R6032		ERDS2TJ152	1.5K	1	
R6033		ERDS2TJ472	4.7K	1	
R6034		ERQ14AJ820	Fuse Resistor 82	1	⚠
R6035		EROS2CKG2261	Metal 2W 2260	1	
R6036		EROS2CKG1212	Metal 2W 12.1K	1	
R6037		EROS2CKG1542	Metal 2W 15.4K	1	
R6038		ERDS2TJ474	470K	1	
R6039		ERDS2TJ105	1M	1	
R6040		ERDS2TJ223	22K	1	
R6041		ERDS2TJ332	3.3K	1	
R6042		ERDS2TJ102	1K	1	
R6043		ERDS2TJ682	6.8K	1	
R6044,6045		ERDS2TJ103	10K	2	
R6046		ERDS2TJ152	1.5K	1	
R6047		ERDS2TJ124	120K	1	
R6048		ERDS2TJ182	1.8K	1	
R6049		ERDS2TJ153	15K	1	
R6050		ERDS2TJ103	10K	1	
R6051,6052		ERDS2TJ333	33K	2	
R6053		ERDS2TJ103	10K	1	
R6054,6055		ERDS2TJ223	22K	2	
R6056		ERDS2TJ273	27K	1	
R6057		ERDS2TJ332	3.3K	1	
R6058		EROS2TKG2611	Metal 2W 2610	1	
R6059		ERDS2TJ102	1K	1	
R6060		ERDS2TJ682	6.8K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6061		ERDS2TJ182	1.8K	1	
R6062		ERDS2TJ562	5.6K	1	
R6063		ERDS2TJ222	2.2K	1	
R6064		ERDS2TJ333	33K	1	
R6065		ERDS2TJ222	2.2K	1	
R6066,6067		ERDS2TJ274	270K	2	
R6068		ERDS2TJ103	10K	1	
R6069		ERX1ANJR82	Metal 1W 0.82	1	
R6070		ERDS2TJ103	10K	1	
R6071		ERX1ANJ1R0	Metal 1W 1.0	1	
R6072		ERDS2TJ154	150K	1	
R6073		ERDS2TJ332	3.3K	1	
R6074		ERDS2TJ823	82K	1	
R6075		ERQ12HJ2R2	Fuse Resistor 1/2W 2.2	1	⚠
R6076		ERDS2TJ224	220K	1	
R6077		ERDS2TJ105	1M	1	
R6078		ERDS2TJ563	56K	1	
R6079		ERDS2TJ822	8.2K	1	
R6080,6081		ERDS2TJ333	33K	2	
R6082		ERDS2TJ223	22K	1	
R6083		ERDS2TJ123	12K	1	
R6084		ERDS2TJ332	3.3K	1	
R6085		ERDS2TJ222	2.2K	1	
R6086-6088		ERDS2TJ103	10K	3	
			Capacitors		
C6001,6002		ECEA1AS470	Electrolytic 10V 47	2	
C6003		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6004		ECEA50ZR1	Electrolytic 50V 0.1	1	
C6005		ECEA25Z3R3	Electrolytic 25V 3.3	1	
C6006		ECEA1HN010	Electrolytic 50V 1	1	
C6007		ECEA25Z3R3	Electrolytic 25V 3.3	1	
C6008		ECEA1HK010	Electrolytic 50V 1	1	
C6009		ECQM1H184JZ	Mylar 50V 0.18	1	
C6010		ECQM1H682JZ	Mylar 50V 6800P	1	
C6011		ECQM1H472KV	Mylar 50V 4700P	1	
C6012		ECKF1H102ZF	Ceramic 50V 1000P	1	
C6013		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6014		ECKF1H102ZF	Ceramic 50V 1000P	1	
C6015		ECEA1AS101	Electrolytic 10V 100	1	
C6016		ECEA50Z1	Electrolytic 50V 1	1	
C6017		ECKF1H102ZF	Ceramic 50V 1000P	1	
C6018		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6019,6020		ECCF1H331J	Ceramic 50V 330P	2	
C6021,6022		ECEA1HN010	Electrolytic 50V 1	2	
C6023,6024		ECQM1H104JZ	Mylar 50V 0.1	2	
C6025		ECQM1H563JZ	Mylar 50V 0.056	1	
			Resistor Arrays		
RX6001		EXBP88223K		1	
RX6002		EXBP87184K		1	
RX6003		EXBP88104K		1	
RX6004		EXBP85472K		1	
			Crystal Oscillator		
X6001		VSX0107		1	or EF0A455K01V1

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P6004	VJP1229	2P	1	
P6006	VJP1230	3P	1	
P6007	VJP1229	2P	1	
P6105	VJP1233	6P	1	
P6010	VJP1229	2P	1	
		Miscellaneous		
	VSC0947	Heat Sink	1	
	XTV3+10J	Screw	3	
	XWG3F8	Washer	3	
	VMX0573	Spacer	3	
	XTV3+8G	Screw	2	
	VEP03191A	Luminance, Chrominance, Audio & Power Supply P.C. Board Unit		⚠
		(Power Supply Section)		
		Integrated Circuit		
IC1001	AN78N12		1	
		Transistors		
Q1001,1002	2SD636		2	(Q,R,S)
Q1003	2SD836		1	⚠
Q1004,1005	2SD636		2	(Q,R,S)
		Diodes		
D1001	10E1		1	⚠
D1002	MA165		1	
D1003	RD5.6JB	Zener	1	
D1004	10E1		1	⚠
D1005	RD7.5EB3	Zener	1	or MA1075
D1006	RD2.7EB	Zener	1	
D1007	MA165		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistors		
R1001	ERDS2TJ392	3.9K	1	
R1002	ERDS2TJ562	5.6K	1	
R1003,1004	ERDS2TJ682	6.8K	2	
R1005	EVNK6AA00B23	Variable 2K	1	
R1006	ERDS2TJ472	4.7K	1	
R1007	ERDS2TJ362	3.6K	1	
R1008	ERDS2TJ682	6.8K	1	
R1009	ERDS2TJ562	5.6K	1	
R1010	ERDS2TJ152	1.5K	1	
R1011	EVNK6AA00B23	Variable 2K	1	
R1012	ERDS2TJ272	2.7K	1	
R1013	ERDS2TJ332	3.3K	1	
R1014	ERDS2TJ562	5.6K	1	
R1015	ERDS2TJ153	15K	1	
R1016	ERDS2TJ332	3.3K	1	
R1017	ERDS2TJ121	120	1	
		Capacitors		
C1001	ECEA1CS330	Electrolytic 16V 33	1	
C1002	ECEA1ES221	Electrolytic 25V 220	1	
C1003	ECEA0JS470	Electrolytic 6.3V 47	1	
C1005	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C1006	ECEA1CS470	Electrolytic 16V 47	1	
C1007,1008	ECKF1H103ZF	Ceramic 50V 0.01	2	
		Connectors		
P1002	VJP1141	2P	1	
P1003	VJP1230	3P	1	
P1005	VJP1235	8P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		(Luminance Section)		
		Integrated Circuits		
IC3001	AN6306		1	
IC3002	AN6337		1	
IC3003	AN6328		1	
IC3004	AN6326N		1	
IC3007	BA7004		1	
		Transistors		
Q3001,3002	2SB641		2	
Q3003,3004	2SD636		2	
Q3006	2SC2377		1	
Q3007	2SC2206		1	
Q3008	2SB641		1	
Q3011	2SC2377		1	
Q3018	2SD636		1	
Q3019,3020	2SC2377		2	
Q3021	2SD1205		1	
Q3022	2SC2206		1	
Q3025,3026	2SC2377		2	
Q3027	2SD636		1	
Q3029	2SD636		1	
Q3030,3031	2SC2206		2	
Q3033	2SB641		1	
Q3035	2SA719		1	
Q3036	2SB641		1	
Q3037	2SC2206		1	
Q3039	2SB641		1	
Q3045	2SD636		1	
		Diodes		
D3001	RD3.0EB	Zener	1	
D3002	MA165		1	
D3004,3005	MA165		2	
D3011,3012	MA165		2	
D3015-3018	MA165		4	
D3022-3025	MA165		4	
D3027	MA165		1	
		Resistors		
R3001,3002	ERDS2TJ102	1K	2	
R3003	ERDS2TJ562	5.6K	1	
R3004	ERDS2TJ122	1.2K	1	
R3005	ERDS2TJ392	3.9K	1	
R3006	ERDS2TJ272	2.7K	1	
R3007	ERDS2TJ222	2.2K	1	
R3008	ERDS2TJ392	3.9K	1	
R3009	ERDS2TJ182	1.8K	1	
R3010	ERDS2TJ103	10K	1	
R3011	EVNK6AA00B24	Variable 20K	1	
R3012	ERDS2TJ332	3.3K	1	
R3013	EVNK6AA00B14	Variable 10K	1	
R3014	ERDS2TJ564	560K	1	
R3015	EVNK6AA00B54	Variable 50K	1	
R3016	ERDS2TJ563	56K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R3017	EVNK6AA00B24	Variable 20K	1	
R3020	ERDS2TJ391	390	1	
R3021	ERDS2TJ561	560	1	
R3022	ERDS2TJ102	1K	1	
R3023,3024	ERDS2TJ223	22K	2	
R3027	ERDS2TJ222	2.2K	1	
R3028,3029	ERDS2TJ103	10K	2	
R3030	ERDS2TJ222	2.2K	1	
R3031	ERDS2TJ122	1.2K	1	
R3032	ERDS2TJ681	680	1	
R3033	ERDS2TJ471	470	1	
R3034	ERDS2TJ334	330K	1	
R3035	ERDS2TJ222	2.2K	1	
R3036	ERDS2TJ122	1.2K	1	
R3037	ERDS2TJ222	2.2K	1	
R3038	ERDS2TJ392	3.9K	1	
R3039	ERDS2TJ222	2.2K	1	
R3040	ERDS2TJ152	1.5K	1	
R3041	ERDS2TJ100	10	1	
R3042	ERDS2TJ564	560K	1	
R3043	ERDS2TJ331	330	1	
R3044	ERDS2TJ473	47K	1	
R3045	ERDS2TJ124	120K	1	
R3046	EVNK6AA00B23	Variable 2K	1	
R3047	ERDS2TJ122	1.2K	1	
R3049	ERDS2TJ820	82	1	
R3050	ERDS2TJ471	470	1	
R3052	ERDS2TJ562	5.6K	1	
R3053	ERDS2TJ122	1.2K	1	
R3054	ERDS2TJ152	1.5K	1	
R3055	ERDS2TJ821	820	1	
R3056	ERDS2TJ181	180	1	
R3057	ERDS2TJ560	56	1	
R3058,3059	ERDS2TJ682	6.8K	2	
R3060,3061	ERDS2TJ560	56	2	
R3071	ERDS2TJ102	1K	1	
R3079	ERDS2TJ153	15K	1	
R3081	ERDS2TJ821	820	1	
R3082	ERDS2TJ153	15K	1	
R3083	ERDS2TJ821	820	1	
R3087,3088	ERDS2TJ223	22K	2	
R3091,3092	ERDS2TJ100	10	2	
R3095,3096	ERDS2TJ102	1K	2	
R3097	ERDS2TJ103	10K	1	
R3099	ERDS2TJ473	47K	1	
R3100	ERDS2TJ183	18K	1	
R3101	ERDS2TJ123	12K	1	
R3102,3103	EVN3ACA00B13	Variable 1K	2	
R3104	ERDS2TJ123	12K	1	
R3105	ERDS2TJ332	3.3K	1	
R3106	ERDS2TJ223	22K	1	
R3107	ERDS2TJ102	1K	1	
R3108	ERDS2TJ223	22K	1	
R3109	EVJEFAF20B23	Variable 2K	1	
R3110	ERDS2TJ331	330	1	
R3111	ERDS2TJ391	390	1	
R3112	ERDS2TJ151	150	1	
R3113	ERDS2TJ122	1.2K	1	
R3114	EVNK6AA00B23	Variable 2K	1	
R3115	ERDS2TJ222	2.2K	1	
R3116	EVNK6AA00B23	Variable 2K	1	
R3117	ERDS2TJ560	56	1	
R3118	ERDS2TJ680	68	1	
R3119,3120	ERDS2TJ122	1.2K	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R3121	ERDS2TJ101	100	1	
R3122	ERDS2TJ102	1K	1	
R3123	ERDS2TJ681	680	1	
R3126,3127	ERDS2TJ152	1.5K	2	
R3128	ERDS2TJ681	680	1	
R3129	ERDS2TJ152	1.5K	1	
R3130,3131	ERDS2TJ102	1K	2	
R3132	ERDS2TJ103	10K	1	
R3134	EVN3ACA00B13	Variable 1K	1	
R3137	ERDS2TJ333	33K	1	
R3138	ERDS2TJ273	27K	1	
R3147	ERDS2TJ182	1.8K	1	
R3148,3149	ERDS2TJ391	390	2	
R3151	ERDS2TJ390	39	1	
R3152	ERDS2TJ561	560	1	
R3153	ERDS2TJ102	1K	1	
R3154	ERDS2TJ681	680	1	
R3155	ERDS2TJ561	560	1	
R3156	ERDS2TJ392	3.9K	1	
R3157	ERDS2TJ561	560	1	
R3158	ERDS2TJ392	3.9K	1	
R3163,3164	ERDS2TJ103	10K	2	
R3168	ERDS2TJ103	10K	1	
R3169	ERDS2TJ152	1.5K	1	
R3170	ERDS2TJ222	2.2K	1	
R3171	ERDS2TJ682	6.8K	1	
R3172	ERDS2TJ562	5.6K	1	
R3175	ERDS2TJ750	75	1	
R3176	ERG12ANJ121P	Metal Oxide 1/2W 120	1	
R3178	ERDS2TJ101	100	1	
R3179	ERDS2TJ561	560	1	
R3180	ERDS2TJ272	2.7K	1	
R3181	ERDS2TJ182	1.8K	1	
R3182	ERDS2TJ822	8.2K	1	
R3183	ERDS2TJ152	1.5K	1	
R3184,3185	ERDS2TJ102	1K	2	
R3202	ERD50TJ331S	1/2W 330	1	
R3204	ERDS2TJ222	2.2K	1	
R3212-3214	ERDS2TJ103	10K	3	
R3231	ERDS2TJ682	6.8K	1	
R3232	EVNK6AA00B14	Variable 10K	1	
R3236	ERDS2TJ390	39	1	
R3237	ERDS2TJ181	180	1	
R3242	ERDS2TJ391	390	1	
R3243	ERDS2TJ472	4.7K	1	
R3244	ERDS2TJ473	47K	1	
R3245	ERDS2TJ102	1K	1	
R3246	ERDS2TJ122	1.2K	1	
		Capacitors		
C3001	ECEA1HNR47	Electrolytic 50V 0.47	1	
C3002,3003	ECKF1H271KB	Ceramic 50V 270P	2	
C3004	ECEA1HN010	Electrolytic 50V 1	1	
C3005	ECCF1H121J	Ceramic 50V 120P	1	
C3006	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3007	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3008	ECEA0JS470	Electrolytic 6.3V 47	1	
C3009	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3010	ECKF1H121KB	Ceramic 50V 120P	1	
C3011	ECEA0JS221	Electrolytic 6.3V 220	1	
C3012	ECCF1H390J	Ceramic 50V 39P	1	
C3013	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3014	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3016	ECCF1H470J	Ceramic 50V 47P	1	
C3017	ECKF1H103ZF	Ceramic 50V 0.01	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C3018	ECCF1H390J	Ceramic 50V 39P	1	
C3019,3020	ECKF1H103ZF	Ceramic 50V 0.01	2	
C3021	ECCF1H120J	Ceramic 50V 12P	1	
C3022	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3023	ECKF1H222ZF	Ceramic 50V 2200P	1	
C3024	ECQV05104JB	Mylar 50V 0.1	1	
C3025	ECEA0JS221	Electrolytic 6.3V 220	1	
C3026	ECKF1H121KB	Ceramic 50V 120P	1	
C3027,3028	ECEA1HS010	Electrolytic 50V 1	2	
C3029	ECKF1H181KB	Ceramic 50V 180P	1	
C3030	ECEA1CS100	Electrolytic 16V 10	1	
C3031	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3032	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3033	ECKF1H122KB	Ceramic 50V 1200P	1	
C3034	ECEA0JK470	Electrolytic 6.3V 47	1	
C3035	ECCF1H820J	Ceramic 50V 82P	1	
C3036	ECKF1H181KB	Ceramic 50V 180P	1	
C3037,3038	ECEA1CK470	Electrolytic 16V 47	2	
C3039	ECEA1CS100	Electrolytic 16V 10	1	
C3040	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3041	ECKF1H221KB	Ceramic 50V 220P	1	
C3042	ECEA1CS470	Electrolytic 16V 47	1	
C3044	ECEA50Z1	Electrolytic 50V 1	1	
C3048,3049	ECKF1H103ZF	Ceramic 50V 0.01	2	
C3052-3054	ECV1ZW40X64	Tantalum 500V 40P	3	
C3055	ECEA1CK470	Electrolytic 16V 47	1	
C3056	ECEA1AS221	Electrolytic 10V 220	1	
C3057	ECCF1H470J	Ceramic 50V 47P	1	
C3058	ECKF1H391KB	Ceramic 50V 390P	1	
C3059	ECKF1H101KB	Ceramic 50V 100P	1	
C3060,3061	ECKF1H103ZF	Ceramic 50V 0.01	2	
C3062	ECCF1H561J	Ceramic 50V 560P	1	
C3063	ECKF1H331KB	Ceramic 50V 330P	1	
C3064	ECEA1HN010	Electrolytic 50V 1	1	
C3065	ECKF1H122KB	Ceramic 50V 1200P	1	
C3066,3067	ECEA1HS010	Electrolytic 50V 1	2	
C3068,3069	ECEA1AS470	Electrolytic 10V 47	2	
C3072	ECCF1H560J	Ceramic 50V 56P	1	
C3073	ECEA1HS010	Electrolytic 50V 1	1	
C3074	ECEA1CS100	Electrolytic 16V 10	1	
C3075,3076	ECQV05104JB	Mylar 50V 0.1	2	
C3077	ECEA1CS100	Electrolytic 16V 10	1	
C3078	ECEA1AS470	Electrolytic 10V 47	1	
C3079-3081	ECKF1H103ZF	Ceraic 50V 0.01	3	
C3082	ECEA1AS470	Electrolytic 10V 47	1	
C3083	ECKF1H561KB	Ceramic 50V 560P	1	
C3084	ECCF1H560J	Ceramic 50V 56P	1	
C3098	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3100	ECCF1H220J	Ceramic 50V 22P	1	
C3101	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3102	ECEA1AK470	Electrolytic 10V 47	1	
C3103,3104	ECKF1H271KB	Ceramic 50V 270P	2	
C3105	ECCF1H431J	Ceramic 50V 430P	1	
C3106	ECEA1AS470	Electrolytic 10V 47	1	
C3107	ECKF1H151KB	Ceramic 50V 150P	1	
C3108	ECEA1AS470	Electrolytic 10V 47	1	
C3109	ECEA0JS221	Electrolytic 6.3V 220	1	
C3110,3111	ECEA1CS100	Electrolytic 16V 10	2	
C3112,3113	VCY25332KW	Semiconductor 25V 3300P	2	
C3114	ECEA1CS101	Electrolytic 16V 100	1	
C3115	ECEA1CS100	Electrolytic 16V 10	1	
C3134	ECEA0JS471	Electrolytic 6.3V 470	1	
C3135	ECEA1CS470	Electrolytic 16V 47	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C3143	ECKF1H472KB	Ceramic 50V 4700P	1	
C3149	VCY25333KW	Semiconductor 25V 0.033	1	
C3150	ECCF1H390J	Ceramic 50V 39P	1	
C3151	ECCF1H680J	Ceramic 50V 68P	1	
C3152	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3153	ECCF1H100DC	Ceramic 50V 10P	1	
C3154,3155	ECQV05104JB	Mylar 50V 0.1	2	
C3156	ECEA50Z1	Electrolytic 50V 1	1	
		Coils		
L3001-3005	VLQEL06F101K	100μH	5	
L3006	VLQEL06F270K	27μH	1	
L3007	VLQEL06F151K	150μH	1	
L3010,3011	VLQ0127	2.2μH	2	
L3012	VLQEL06F150K	15μH	1	
L3013	VLQEL06F330K	33μH	1	
L3016	VLQEL06F820K	82μH	1	
L3017	VLQEL06F101K	100μH	1	
L3018	VLQEL06F102K	1mH	1	
L3019	VLQEL06F471K	470μH	1	
L3020	VLQEL06F220K	22μH	1	
L3024	VLQEL06F101K	100μH	1	
L3025,3026	VLQEL06F100K	10μH	2	
L3027	VLQEL06F2R7K	2.7μH	1	
L3028	VLQEL06F151K	150μH	1	
L3029	VLQEL06F180K	18μH	1	
L3030,3031	VLQEL06F101K	100μH	2	
L3045	VLQEL06F820K	82μH	1	
		Delay Line		
DL3002	VLD0022		1	
		Filters		
FL3001	VLF0186		1	
FL3002	VLF0188		1	
FL3003,3004	VLF0187		2	
FL3005	VLF0300		1	
		Relay		
RY3001	VSY2028		1	
		Switch		
S3001	VSS0052		1	
		Crystal Oscillator		
X3002	VSX0099		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connector		
P002	VJP1145	8P	1	
		(Audio Section)		
		Integrated Circuits		
IC4001	TA7325P		1	
IC4002	TA7355P		1	
		Transistors		
Q4001	2SD655		1	
Q4002	2SB641		1	
Q4003	2SD636		1	
Q4004	2SD639		1	(R)
Q4005,4006	2SD636		2	
Q4007	2SD655		1	
Q4008	2SD636		1	
Q4009	2SB641		1	
Q4010	2SD655		1	or 2SD1244
Q4011	2SD655		1	
		Diodes		
D4001	MA165		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistors		
R4001	ERDS2TJ330	33	1	
R4002	ERDS2TJ221	220	1	
R4003	ERDS2TJ332	3.3K	1	
R4004	ERDS2TJ102	1K	1	
R4005	ERDS2TJ183	18K	1	
R4006	ERDS2TJ473	47K	1	
R4007	ERDS2TJ103	10K	1	
R4008	EVNK6AA00B15	Variable 100K	1	
R4009	ERDS2TJ103	10K	1	
R4010	ERDS2TJ223	22K	1	
R4011	ERDS2TJ103	10K	1	
R4012	ERDS2TJ473	47K	1	
R4013	ERDS2TJ392	3.9K	1	
R4014	ERDS2TJ223	22K	1	
R4015	ERDS2TJ333	33K	1	
R4016,4017	ERDS2TJ103	10K	2	
R4018	ERDS2TJ105	1M	1	
R4019	ERDS2TJ104	100K	1	
R4020	ERDS2TJ101	100	1	
R4021	ERDS2TJ104	100K	1	
R4022	ERDS2TJ223	22K	1	
R4023	ERDS2TJ4R7	4.7	1	
R4024	ERDS2TJ332	3.3K	1	
R4025	ERDS2TJ152	1.5K	1	
R4026	ERDS2TJ394	390K	1	
R4027	ERDS2TJ332	3.3K	1	
R4028	ERDS2TJ101	100	1	
R4029	ERDS2TJ153	15K	1	
R4030	ERDS2TJ394	390K	1	
R4032	ERDS2TJ392	3.9K	1	
R4033	EVNK6AA00B53	Variable 5K	1	
R4034	ERDS2TJ332	3.3K	1	
R4035	ERDS2TJ473	47K	1	
R4036-4038	ERDS2TJ562	5.6K	3	
R4039	ERDS2TJ104	100K	1	
R4040	ERDS2TJ333	33K	1	
R4041	ERDS2TJ104	100K	1	
R4042	ERDS2TJ561	560	1	
R4043	ERDS2TJ100	10	1	
		Capacitors		
C4001	ECQV05823JB	Mylar 50V 0.082	1	
C4002	ECEA1CS100	Electrolytic 16V 10	1	
C4003	ECQM1H102JZ	Mylar 50V 1000P	1	
C4004	ECEA0JS330B	Electrolytic 6.3V 33	1	
C4005	ECQV05333JZ	Mylar 50V 0.033	1	
C4006	ECEA1AS470	Electrolytic 10V 47	1	
C4007	ECEA1EK3R3	Electrolytic 25V 3.3	1	
C4008	ECEA0JK101	Electrolytic 6.3V 100	1	
C4009	ECEA1CK100	Electrolytic 16V 10	1	
C4010	ECQF6222KZH	Mylar 600V 2200P	1	
C4011	ECEA1CS100	Electrolytic 16V 10	1	
C4012	ECEA1CK100	Electrolytic 16V 10	1	
C4013	ECEA1CS100	Electrolytic 16V 10	1	
C4014	ECEA1HK010	Electrolytic 50V 1	1	
C4015	ECKF1H471KB	Ceramic 50V 470P	1	
C4016	ECKF1H103ZF	Ceramic 50V 0.01	1	
C4017	ECEA1HS010	Electrolytic 50V 1	1	
C4018	ECEA1CS221	Electrolytic 16V 220	1	
C4019	ECEA1HS010	Electrolytic 50V 1	1	
C4020	ECEA1CS470	Electrolytic 16V 47	1	
C4021	ECEA1CS101	Electrolytic 16V 100	1	
C4023	ECCD2H121K	Ceramic 500V 120P	1	
C4024	ECEA1CS100	Electrolytic 16V 10	1	
C4025	VCY25223KW	Semiconductor 25V 0.022	1	
C4026	VCY25103KW	Semiconductor 25V 0.01	1	
C4027	ECEA1HKR47	Electrolytic 50V 0.47	1	
C4028	ECQM1H103JZ	Mylar 50V 0.01	1	
C4029	ECQV05273JZ	Mylar 50V 0.027	1	
		Coils		
L4001	VLQEL06F471K	470μH	1	
L4002	VLQEL07L222K	2.2mH	1	
L4003	VTQ0014	10mH	1	
L4004	VTQ0014	10mH	1	
		Transformer		
T4001	VLT0181		1	
		(Chrominance Section)		
		Integrated Circuits		
IC8002	AN6367		1	
IC8003	MN6163A		1	
IC8005	AN6342N		1	
		Transistors		
Q8001-8003	2SD636		3	
Q8005	2SD636		1	
Q8007	2SD636		1	
Q8008,8009	2SB641		2	
Q8010	2SC828		1	(R,S)
Q8011	2SD636		1	
Q8021	2SD636		1	
		Diodes		
D8001,8002	MA165		2	
D8004	MA165		1	
		Resistors		
R8001,8002	ERDS2TJ473	47K	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R8003	ERDS2TJ104	100K	1	
R8004,8005	ERDS2TJ332	3.3K	2	
R8006	ERDS2TJ333	33K	1	
R8007	ERDS2TJ472	4.7K	1	
R8008	ERDS2TJ102	1K	1	
R8009	ERDS2TJ122	1.2K	1	
R8010	ERDS2TJ102	1K	1	
R8011	ERDS2TJ270	27	1	
R8012	ERDS2TJ471	470	1	
R8013	ERDS2TJ183	18K	1	
R8014	ERDS2TJ822	8.2K	1	
R8015-8019	ERDS2TJ391	390	5	
R8020	EVNK6AA00B14	Variable 10K	1	
R8023	ERDS2TJ682	6.8K	1	
R8024	ERD2TJ821	820	1	
R8025	ERDS2TJ273	27K	1	
R8026	EVNK6AA00B24	Variable 20K	1	
R8027	ERDS2TJ511	510	1	
R8028	ERDS2TJ152	1.5K	1	
R8029,8030	ERDS2TJ102	1K	2	
R8031	ERDS2TJ472	4.7K	1	
R8032	EVNK6AA00B13	Variable 1K	1	
R8033	ERDS2TJ223	22K	1	
R8034	ERDS2TJ562	5.6K	1	
R8035	ERDS2TJ102	1K	1	
R8036	ERDS2TJ151	150	1	
R8040	ERDS2TJ102	1K	1	
R8041	ERDS2TJ182	1.8K	1	
R8042	ERDS2TJ562	5.6K	1	
R8043	ERDS2TJ272	2.7K	1	
R8044,8045	ERDS2TJ471	470	2	
R8046	ERDS2TJ123	12K	1	
R8047	ERDS2TJ103	10K	1	
R8051	ERDS2TJ273	27K	1	
R8052	ERDS2TJ272	2.7K	1	
R8053	ERDS2TJ470	47	1	
R8054	ERDS2TJ333	33K	1	
R8055	ERDS2TJ273	27K	1	
R8056,8057	ERDS2TJ333	33K	2	
R8063	ERDS2TJ104	100K	1	
R8064	ERDS2TJ153	15K	1	
R8065	ERDS2TJ104	100K	1	
R8066	ERDS2TJ203	20K	1	
R8086	ERDS2TJ151	150	1	
R8091	ERDS2TJ822	8.2K	1	
R8093	ERDS2TJ104	100K	1	
R8094,8095	ERDS2TJ562	5.6K	2	
R8096	ERDS2TJ221	220	1	
		Capacitors		
C8001,8002	ECKF1H103ZF	Ceramic 50V 0.01	2	
C8003	VCY25104KW	Semiconductor 25V 0.1	1	
C8007,8008	ECKF1H103ZF	Ceramic 50V 0.01	2	
C8009	ECKF1H223ZF	Ceramic 50V 0.022	1	
C8010	ECEA1HS010	Electrolytic 50V 1	1	
C8011	ECEA1ES100	Electrolytic 25V 10	1	
C8012	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8013	ECCF1H270J	Ceramic 50V 27P	1	
C8014-8017	ECKF1H103ZF	Ceramic 50V 0.01	4	
C8018	ECKF1H182KB	Ceramic 50V 1800P	1	
C8020	ECKF1H103ZF	Ceramic 50V 0.01	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C8021	ECEA1HS010	Electrolytic 50V 1	1	
C8022	ECEA1AS470	Electrolytic 10V 47	1	
C8023	ECKF1H102KB	Ceramic 50V 1000P	1	
C8024	ECV1ZW20X64	Tantalum 500V 20P	1	
C8025	ECCF1H050CC	Ceramic 50V 5P	1	
C8026	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8027	ECEA0JS221	Electrolytic 6.3V 220	1	
C8028	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8029	ECCF1H390JC	Ceramic 50V 39P	1	
C8030	ECKF1H221KB	Ceramic 50V 220P	1	
C8031,8032	ECKF1H103ZF	Ceramic 50V 0.01	2	
C8033	ECEA0JS470	Electrolytic 6.3V 47	1	
C8036	ECKF1H472KB	Ceramic 50V 4700P	1	
C8037	ECCF1H680J	Ceramic 50V 68P	1	
C8038	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8039	ECQM1H473JZ	Mylar 50V 0.047	1	
C8040	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8041	ECEA0JS470	Electrolytic 6.3V 47	1	
C8056	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8057	ECEA1CS100	Electrolytic 16V 10	1	
C8058	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8059	ECEA0JS470	Electrolytic 6.3V 47	1	
C8060	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8061	ECQV05154JZ	Mylar 50V 0.15	1	
C8062	ECKF1H471KB	Ceramic 50V 470P	1	
		Coils		
L8001,8002	VLQEL06F101K	100μH	2	
L8003,8004	VLQEL06F6R8K	6.8μH	2	
L8005	VLQEL06F270K	27μH	1	
L8006	VLQEL06F470K	47μH	1	
L8007	VLQEL06F390K	39μH	1	
L8008	VLQEL06F101K	100μH	1	
L8014	VLQ0103	680μH	1	or VLQFS07L681K
L8015	VLQEL06F151K	150μH	1	
		Delay Line		
DL8001	VLD0014		1	
		Filters		
FL8001	VLF0190		1	
FL8002	VLF0192		1	
FL8003	VLF0191		1	
FL8004	EFCS5R06MS4V		1	
		Crystal Oscillator		
X8001	VSX0066		1	
		Miscellaneous		
	VJF0130	Wire Saddle	2	
	VMX0573	Spacer	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VSC1043	Shield Case (Main)	1	
	VSC1044	Shield Case (Bottom)	1	
JSA	VJS1171	Connector 4P	1	
JSB	VJS1171	Connector 4P	1	
JSC	VJS1180	Connector 5P	1	
	VEP06204A/B	Operation P.C. Board		
		Diodes		
D6502	LN41YCPHL	LED	1	
D6503,6504	LN31GCPUHL	LED	2	
D6505-6510	LN81RCPHL	LED	6	
		Resistors		
R6501-6506	ERDS2TJ122	1.2K	6	
R6507	ERDS2TJ473	47K	1	NV-600EN
R6508	ERDS2TJ122	1.2K	1	
R6509	ERDS2TJ681	680	1	
R6510	ERDS2TJ122	1.2K	1	
R6511	ERDS2TJ272	2.7K	1	
R6512	ERDS2TJ472	4.7K	1	
R6513	ERDS2TJ822	8.2K	1	
R6514	ERDS2TJ513	51K	1	
R6515	ERDS2TJ623	62K	1	
R6516	ERDS2TJ103	10K	1	
		Switches		
S6501	VSP0111		1	
S6502	VSP0111		1	NV-600EN
S6504-6511	EVQPYT12K		8	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P6008	VJP1235	8P	1	
P6009	VJP1232	5P	1	
		Miscellaneous		
	KL04	LED Holder	4	
	VMD0504	LED Holder	2	
	VMX0638	LED Holder	3	
	QBG1372	LED Holder	1	
	VEP07177A/B	TV Demodulator P.C. Board Unit		⚠
		Integrated Circuits		
IC701	BN5115		1	
IC751	AN5215		1	
		Transistors		
Q701	2SD636		1	(Q,R,S,T) or 2SC1684(Q,R,S,T)
Q702	2SB641		1	(Q,R,S,T) or 2SA564(Q,R,S,T)
Q703	2SD636		1	(S,T) or 2SD637(S,T)
Q704	2SK55P		1	(D)
Q705,706	2SD636		2	(Q,R,S,T) or 2SC1684(Q,R,S,T)
Q707,708	2SD636		2	(Q,R,S,T) or 2SC1684(Q,R,S,T) NV-600EN
Q709	2SB642		1	(Q,R,S,T) or 2SA564A(Q,R,S,T) NV-600EN
Q710	2SD636		1	(Q,R,S,T) or 2SC1684(Q,R,S,T) NV-600EN
Q7006	2SD636		1	(Q,R,S,T) or 2SC1684(Q,R,S,T)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Diodes		
D701-703	MA165		3	or 1SS133
D705	MA165		1	or 1SS133
				NV-600EN
D7008	10E1		1	or ERB12
		Resistors		
R701	ERDS2TJ332	3.3K	1	
R702	EVN50AA00B23	Variable 2K	1	
R703,704	ERDS2TJ122	1.2K	2	
R705	EVN50AA00B23	Variable 2K	1	
R706	ERDS2TJ222	2.2K	1	
R707	ERDS2TJ393	39K	1	
R708	ERDS2TJ473	47K	1	
R711	ERDS2TJ274	270K	1	
R712	ERDS2TJ183	18K	1	
R713	ERDS2TJ392	3.9K	1	
R714	ERDS2TJ102	1K	1	
R715	ERDS2TJ391	390	1	
R716	ERDS2TJ561	560	1	
R717	ERDS2TJ102	1K	1	
R719	ERDS2TJ561	560	1	
R722	ERDS2TJ183	18K	1	
R723	ERDS2TJ562	5.6K	1	
R724	EROS2CKG8200	820	1	
R725	ERDS2TJ470	47	1	
R726	ERDS2TJ680	68	1	
R727	EROS2CKG1001	Metal 2W 1K	1	
R728	EVN50AA00B14	Variable 10K	1	
R731	ERDS2TJ680	68	1	
R732	ERDS2TJ102	1K	1	
R733	ERDS2TJ270	27	1	
R734	ERDS2TJ332	3.3K	1	
R735	ERD2FCG220P	Fuse Resistor 22	1	⚠
R737	ERDS2TJ561	560	1	
R739	ERDS2TJ152	1.5K	1	
R740	ERDS2TJ103	10K	1	
R741,742	ERDS2TJ563	56K	2	
R743	ERDS2TJ473	47K	1	NV-600EN
R744-747	ERDS2TJ223	22K	4	NV-600EN
R748	ERDS2TJ472	4.7K	1	NV-600EN
R749	ERDS2TJ682	6.8K	1	NV-600EN
R752	ERD2FCG220P	Fuse Resistor 22	1	⚠
R754	ERDS2TJ152	1.5K	1	
R755	EVNK6AA00B24	Variable 20K	1	
R756	ERDS2TJ102	1K	1	
R757	ERDS2TJ333	33K	1	
R758	ERDS2TJ562	5.6K	1	
R759	ERDS2TJ333	33K	1	
R760	ERDS2TJ562	5.6K	1	
R761	ERDS2TJ102	1K	1	NV-600EN
R762	ERDS2TJ271	270	1	NV-600EN
R763	ERDS2TJ104	100K	1	NV-600EN
R764	ERDS2TJ223	22K	1	NV-600EN
R790	ERDS2TJ750	75	1	
R7014	ERDS2TJ102	1K	1	
R7015	ERDS2TJ103	10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Capacitors		
C701	ECEA1CS220	Electrolytic 16V 22	1	
C702	ECEA1CS100	Electrolytic 16V 10	1	
C703	ECKF1H103ZF	Ceramic 50V 0.01	1	
C704	ECEA1CS330	Electrolytic 16V 33	1	
C705	ECEA50ZR68	Electrolytic 50V 0.68	1	
C706	ECEA1CS330	Electrolytic 16V 33	1	
C707,708	ECKF1H103ZF	Ceramic 50V 0.01	2	
C709	ECQV05224JZ	Mylar 50V 0.22	1	
C710	ECKF1H103ZF	Ceramic 50V 0.01	1	
C711,712	ECCF1H030CC	Ceramic 50V 3P	2	
C713	ECCF1H121J	Ceramic 50V 120P	1	
C714	ECCF1H220J	Ceramic 50V 22P	1	
C715,716	ECKF1H103ZF	Ceramic 50V 0.01	2	
C717	ECCF1H150J	Ceramic 50V 15P	1	
C718	ECCF1H560JR	Ceramic 50V 56P	1	
C719	ECEA50Z1	Electrolytic 50V 1	1	
C720	ECKF1H103ZF	Ceramic 50V 0.01	1	
C721	ECEA1CS470	Electrolytic 16V 47	1	
C723	ECEA1EN4R7	Electrolytic 25V 4.7	1	
C724	ECCF1H150J	Ceramic 50V 15P	1	
C726	ECCF1H680J	Ceramic 50V 68P	1	
C727	ECCF1H100DC	Ceramic 50V 10P	1	
C728	ECCF1H100DR	Ceramic 50V 10P	1	
C731	ECQV05103JZ	Mylar 50V 0.01	1	
C732	ECKF1H103ZF	Ceramic 50V 0.01	1	
C733	ECCF1H151J	Ceramic 50V 150P	1	
C734,735	ECKF1H103ZF	Ceramic 50V 0.01	2	
C736	ECEA1HS010	Electrolytic 50V 1	1	
C737	ECEA1CS220	Electrolytic 16V 22	1	
C739	ECKF1H103ZF	Ceramic 50V 0.01	1	
C740	ECQV05104JB	Mylar 50V 0.1	1	
C743	ECQV05104JZ	Mylar 50V 0.1	1	
C745	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-600EN
C746	ECEA1CS220	Electrolytic 16V 22	1	
C747	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-600EN
C751	ECCF1H050CC	Ceramic 50V 5P	1	
C753	ECQV05473JZ	Mylar 50V 0.047	1	
C754	ECEA1CS101	Electrolytic 16V 100	1	
C755	ECCF1H390J	Ceramic 50V 39P	1	
C756	ECCF1H120J	Ceramic 50V 12P	1	
C757	ECKF1H561KB	Ceramic 50V 560P	1	
C758	ECCF1H820J	Ceramic 50V 82P	1	
C759	ECEA1CS100	Electrolytic 16V 10	1	
C760	ECEA1HN010	Electrolytic 50V 1	1	
C761	ECQV05393JZ	Mylar 50V 0.039	1	
		Coils		
L701	VLQEL06F220K	22μH	1	
L703	VLQEL06F150K	15μH	1	
L704	VLQEL06F470K	47μH	1	
L705	VLQEL06F560K	56μH	1	
L706	VLQEL06F820K	82μH	1	
L707	ELQSR68KB	0.68μH	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistor Arrays		
RX701	EXPR220K272S		1	
RX702	EXPR102K471S		1	
		Crystal Oscillators		
X702	EFCS5R5MS4		1	or VLF0178
X703	EFCS5R5MW3		1	or VLF0182
		Transformers		
T700	EIV7E016H		1	
T701	EULHLB307		1	
T702	EIM7A511		1	
T703	EIV7E016F		1	
T704	EIV7E016E		1	
T751	EIS7E006A		1	
T752	EIS7E006B		1	
		Connectors		
P701	VJP1232	5P	1	
P702,703	VJP1230	3P	2	
P704	VJP1239	12P	1	
		Miscellaneous		
	TNV77759F2	Tuner	1	⚠
	VSC0741	Shield Case (Top)	1	
	VSC0742	Shield Case (Main)	1	
	VSC0743	Shield Case (Bottom)	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP07178A	Timer Operation P.C. Board Unit		
		Integrated Circuits		
IC7502	AN6873N		1	or MSL915RS
IC7580	μPC1373H		1	
		Transistors		
Q7580	2SB641		1	or 2SA564, 2SA733, 2SB642
Q7581	2SD636		1	or 2SC1684, 2SC945A, 2SD637
		Diodes		
D7514	MA165		1	or 1SS133
D7516-7519	MA165		4	or 1SS133
		Resistors		
R7573	ERDS2TJ104	100K	1	
R7580	ERDS2TJ154	150K	1	
R7581	ERDS2TJ120	12	1	
R7582	ERDS2TJ102	1K	1	
R7583	ERDS2TJ473	47K	1	
R7584	ERDS2TJ334	330K	1	
R7585	ERDS2TJ124	120K	1	
R7586	ERDS2TJ473	47K	1	
		Capacitors		
C7580	ECQV05183JZ	Mylar 50V 0.018	1	
C7581	VCF0006	4700P	1	
C7582	ECEA1CS100	Electrolytic 16V 10	1	
C7583	ECEA1HSR47	Electrolytic 50V 0.47	1	
C7584,7585	ECEA1CS470	Electrolytic 16V 47	2	
C7586	ECQM1H102JZ	Mylar 50V 1000P	1	
C7587	ECKF1H331KB	Ceramic 50V 330P	1	
		Transformer		
T7580	ELM7Q206A		1	
		Switches		
SW7501	EVQQS307K		1	
SW7504	ESD14182		1	
SW7505-7508	EVQQSB05G		4	
SW7510-7513	EVQQSB05G		4	
SW7514	VSP0111		1	or ESB641
SW7521,7522	EVQQS307K		2	
SW7523	VSP0111		1	or ESB641

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P7506	VJP1229	2P	1	
P7507	VJP1230	3P	1	
		Miscellaneous		
DP7501	VSL0027	Display Tube	1	
	VGQ0417	Display Tube Holder	2	
	VGQ0458	Display Tube Spacer	2	
	VSC0601	Shield Case (Top)	1	
	VSC0667	Shield Board	1	
	VSC1039	Shield Case (Main)	1	
	VSC1040	Shield Case (Bottom)	1	
	VEP07179A	**Timer Decoder P.C. Board Unit**		⚠
		Integrated Circuits		
IC7501	MN1455BVE		1	
IC7503	MN1512VTG		1	
IC7504	MN1228		1	
IC7505	AN5033		1	
		Transistors		
Q7501	2SB641		1	or 2SA564, 2SA733, 2SB642
Q7502	2SB641		1	(R,S,T)
Q7503	2SD636		1	or 2SC1684, 2SC945A, 2SC637
Q7505	2SD636		1	or 2SC1684, 2SC945A, 2SC637
Q7506	2SB641		1	or 2SA564, 2SA733, 2SB642
Q7507-7509	2SB644		3	
Q7510	2SD637		1	or 2SC1685
Q7511	2SB642		1	
Q7513-7515	2SB642		3	
		Diodes		
D7501,7502	MA165		2	or 1SS133
D7504	MA165		1	or 1SS133

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
D7505	LN28WP.VT	LED	1	
D7506-7508	10E2		3	or ERB12
D7509	MA27WB		1	
D7510	LN28WP.VT	LED	1	
D7511	10E2		1	or ERB12
D7512	RD30EB2	Zener	1	or RD30EB3, MA1300
D7513	RD7.5EB	Zener	1	or EQA01, MA1075
D7520-7522	MA165		3	or 1SS133
D7523	LN38GCPP	LED	1	
D7550	MA165		1	or 1SS133
D7552-7554	MA165		3	or 1SS133
D7556	MA165		1	or 1SS133
D7561-6563	MA165		3	or 1SS133
D7564,7565	10E2		1	or ERB12
		Resistors		
R7501	ERDS2TJ122	1.2K	1	
R7502	ERC14GJ126	Solid 12M	1	
R7503,7504	ERDS2TJ102	1K	2	
R7505,7506	ERDS2TJ223	22K	2	
R7507	ERDS2TJ181	180	1	
R7508	ERDS2TJ334	330K	1	
R7509	EVNK6AA00B25	Variable 200K	1	
R7510	ERDS2TJ124	120K	1	
R7511	ERDS2TJ154	150K	1	
R7512	ERDS2TJ104	100K	1	
R7513	ERDS2TJ224	220K	1	
R7514	ERDS2TJ102	1K	1	
R7515	ERDS2TJ183	18K	1	
R7516	ERDS2TJ473	47K	1	
R7518	ERDS2TJ105	1M	1	
R7520,7521	ERDS2TJ271	270	2	
R7522	ERDS2TJ182	1.8K	1	
R7523-7525	ERDS2TJ473	47K	3	
R7526,7527	ERDS2TJ104	100K	2	
R7528	ERDS2TJ103	10K	1	
R7529	ERDS2TJ473	47K	1	
R7530	ERDS2TJ104	100K	1	
R7531	ERDS2TJ124	120K	1	
R7532	ERDS2TJ122	1.2K	1	
R7533	EWEU2A016B24	Variable 20K	1	
R7534	ERDS2TJ271	270	1	
R7535	EVNK6AA00B14	Variable 10K	1	
R7536	ERDS2TJ103	10K	1	
R7537	ERDS2TJ473	47K	1	
R7539	ERDS2TJ390	39	1	
R7540	ERDS2TJ820	82	1	
R7541	ERD25TJ153	15K	1	
R7542	ERDS2TJ473	47K	1	
R7543	**ERD2FCG181**	**Fuse Resistor 180**	1	⚠
R7544	ERD50TJ472	1/2W 4.7K	1	
R7545	ERDS2TJ561	560	1	
R7546	ERDS2TJ273	27K	1	
R7547	ERDS2TJ104	100K	1	
R7548	ERDS2TJ103	10K	1	
R7550	ERDS2TJ391	390	1	
R7551-7556	ERDS2TJ273	27K	6	
R7557-7559	ERDS2TJ473	47K	3	
R7566	ERDS2TJ562	5.6K	1	
R7567	ERDS2TJ103	10K	1	
R7570,7571	ERDS2TJ332	3.3K	2	
R7575	ERDS2TJ334	330K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R7576	ERDS2TJ223	22K	1	
R7577	ERDS2TJ473	47K	1	
		Capacitors		
C7501	ECCF1H080DC	Ceramic 50V 8P	1	
C7502	ECV1ZW20X53	Tantalum 500V 20P	1	
C7503	ECCF1H050DC	Ceramic 50V 5P	1	
C7504	ECCF1H330J	Ceramic 50V 33P	1	
C7505	ECCF1H220J	Ceramic 50V 22P	1	
C7506	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7507	ECEA1HKR22	Electrolytic 50V 0.22	1	
C7508	ECEA50ZR22	Electrolytic 50V 0.22	1	
C7509	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C7510	ECEA1AS101	Electrolytic 10V 100	1	
C7511	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7512	ECEA1HKR22	Electrolytic 50V 0.22	1	
C7513,7514	ECCF1H470JN	Ceramic 50V 47P	2	
C7515	ECQV05104JZ	Mylar 50V 0.1	1	
C7516	ECQV05683JZ	Mylar 50V 0.068	1	
C7517	ECQV05273JZ	Mylar 50V 0.027	1	
C7518	ECQV05823JZ	Mylar 50V 0.082	1	
C7519-7521	ECKF1H103ZF	Ceramic 50V 0.01	3	
C7522	ECEA1JS101	Electrolytic 63V 100	1	
C7523	ECEA1HS010	Electrolytic 50V 1	1	
C7524	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7525	ECEA1JS101	Electrolytic 63V 100	1	
C7527	ECEA1HS100	Electrolytic 50V 10	1	
C7528	ECQV05473JZ	Mylar 50V 0.047	1	
C7530	ECEA1HS010	Electrolytic 50V 1	1	
C7531	ECEA1CS100	Electrolytic 16V 10	1	
C7532	ECEA1HS010	Electrolytic 50V 1	1	
C7533	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7540-7542	EECW2R3A3R3	Gold Capacitor 2.3V 3.3	3	
C7543	ECEA1HK010	Electrolytic 50V 1	1	
C7545	ECEA1JS101	Electrolytic 63V 100	1	
		Coils		
L7501	VLQ80F102K	1mH	1	or VLQEL06F102K
		Crystal Oscillators		
X7501	VSX0071		1	
X7502	VSX0094		1	
X7503	VSX0082		1	
		Switches		
SW7516	VES0213		1	
SW7517	ESD14137A		1	or VSS0050
SW7518-7520	EVQQS405K		3	
		Connectors		
P7501	VJP1239	12P	1	
P7502	VJP1233	6P	1	
P7503	VJP1235	8P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
P7505	VJP1229	2P	1	
		Miscellaneous		
	VGQ0457	LED Spacer (For D7523)	1	
	VGT0305	Tuning VR Knob	1	
		Motor Connection P.C. Board		
		Capacitor		
C1501	ECEA1HN010	Electrolytic 50V 1	1	
		Connectors		
P1501	VJP1107	10P	1	
P1512	VJP1242	2P	1	
		Front Loading Connection P.C. Board		
		Connector		
P1510	VJP1250	10P	1	
		Miscellaneous		
	VSM0046	Switch	2	
	VMA6073	Switch Bracket	1	
		Reel Sensor Connection P.C. Board		
	DN6838A		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Power Transistor (1)		
		P.C. Board		
		Transistor		
Q1502	2SC1847V		1	⚠
		Connector		
P1502	VJP1243	3P	1	
		Miscellaneous		
	VSC1006	Heat Sink	1	
		Power Transistor (2)		
		P.C. Board		
		Transistor		
Q1201	2SB941		1	⚠
		Takeup Photo Transistor		
		P.C. Board		
		Transistor		
	PN150NV	Photo Tr	1	
		Capacitor		
C1503	ECKF1H102KB	Ceramic 50V 1000P	1	
		IR Remote Control Receiver		
		P.C. Board		
		Diode		
D6501	PN313		1	or PH302
		Connector		
P6505	VJP1224	2P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Supply Photo Transistor		
		P.C. Board		
		Transistor		
	PN150NV	Photo Tr	1	
		Capacitor		
C1502	ECKF1H102KB	Ceramic 50V 1000P	1	
		Sensor LED P.C. Board		
		Diode		
	GL450	LED	1	
		Miscellaneous		
	VMD0465	LED Holder	1	
		Power Transformer		
		P.C. Board		
		Diodes		
D1501-1504	10E1		4	⚠
D1505,1506	MA165		2	
D1507,1508	10E1		2	⚠
		Resistor		
R1501	ERDS2TJ563	56K	1	
		Capacitors		
C1501	ECKF1H103ZF	Ceramic 50V 0.01	1	
C1502	ECET35R332SW	Electrolytic 35V 3300	1	
C1503	ECEA1CS332	Electrolytic 16V 3300	1	
C1504	ECEA1VS221	Electrolytic 35V 220	1	
C1505	ECQM1222KZ	Mylar 100V 2200P	1	
		Switch		
S1501	VSR0019		1	NV-600EN
		Connectors		
P1001	VJP1145	8P	1	
P1006	VJP1141	2P	1	
		Miscellaneous		
	TJC6320	Fuse Holder	6	⚠

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VJA0111	AC Cord	1	⚠
	VMX0237	AC Cord Terminal Cover	1	⚠
	SJT777	AC Cord Clamp Pin	2	⚠
	VJF0107	Bushing	1	⚠
	VMX0399	SW Cover	1	NV-600EN ⚠
	XTV3+6F	Screw	2	NV-600EN
	VMP0369	Power Transformer Angle	1	⚠
	VGH0054	Power Name Plate	1	NV-600E
	VGH0055	Power Name Plate	1	NV-600EN
	ENC17571	RF Converter Unit		⚠
		Integrated Circuit		
IC1	AN3130	Modulator	1	
		Transistor		
Q1	2SC1215R		1	(UO-1) Not Available
		Diodes		
D1,2	1SS86	Mixer	2	
		Resistors		
R1	ERJ8GCSJ391	Chip 390	1	
R2	ERJ8GCSJ681	Chip 680	1	
R3	ERJ8GCSJ000	Chip 0	1	
R4	EVN1ACA00B14	Variable 10K	1	
R5	ERJ8GCSJ000	Chip 0	1	
R6	ERJ8GCSJ221	Chip 220	1	
R7	ERD10TJ823	1/8W 82K	1	
R8	ERD10TJ472	1/8W 4.7K	1	
R9	ERJ8GCSJ331	Chip 330	1	
R10	ERJ8GCSJ122	Chip 1.2K	1	
R11	ERJ8GCSJ101	Chip 100	1	
R12	ERJ8GCSJ221	Chip 220	1	
R13	ERJ8GCSJ560	Chip 56	1	
R14	ERJ8GCSJ680	Chip 68	1	
R15,16	ERD10TJ822	1/8W 8.2K	2	(UO-1) Not Available
R17	ERD10TJ331	1/8W 330	1	(UO-1) Not Available
(Coils and Capacitors are not abailable as service spare parts to avoid unwanted spurious from RF OUT terminal.)				

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	ENC17506	RF Converter Unit		⚠
		Integrated Circuit		
IC	AN3110		1	
		Resistors		
R1	ERJ8GCSJ271	Chip 270	1	
R2	ERJ8GCSJ331	Chip 330	1	
R3	ERJ8GCSJ473	Chip 47K	1	
R4	ERJ8GCSJ221	Chip 220	1	
R5	ERJ8GCSJ181	Chip 180	1	
R6	ERJ8GCSJ121	Chip 120	1	
R7	ERJ8GCSJ181	Chip 180	1	
R8,9	ERJ8GCSJ820	Chip 82	2	
VR1	EVN1ACA00B52	Variable 500	1	
VR2	EVN1ACA00B14	Variable 10K	1	
(Coils and Capacitors are not abailable as service spare parts to avoid unwanted spurious from RF OUT terminal.)				
SW1	ESD14178		1	
		IR Remote Control		(VSQ0305,VSQ0306)
		Transmitter P.C.Board Unit	1	
		Integrated Circuit		
IC1	μPD6108C002	LSI	1	
		Transistor		
Q1	2SD1458		1	
		Diode		
D1	LN66NC		1	or SE303A
		Resistors		
R1	ERD25TJ102	1K	1	
R2	ERD25TJ473	47K	1	
R3	ERD25TJ1R0	1	1	
		Capacitors		
C1,2	ECKF1H471KB	Ceramic 50V 470P	1	or TCKD1H471KB
C3	ECEA0JS101	Electrolytic 6.3V 100	1	
		Ceramic Oscillator		
X1	CSB420PB6		1	or KBR420BT1, EFOA420K03
		Miscellaneous		
	VJR0054	Electrode (Common)	1	
	VJR0055	Electrode (Positive)	1	
	VJR0056	Electrode (Negative)	1	

ORDER NO. VRD8307-468

Service Manual

Supplementary

Video Cassette Recorder

Panasonic VHS

NV-600-EG -EO

SPECIFICATIONS

Power Source:	220V AC 50/60Hz
Power Consumption:	Approx. 38 watts
Television System:	CCIR: 625 lines, 50 fields PAL colour signal (NV-600EO) CCIR: 625 lines, 50 fields PAL/SECAM colour signal (NV-600EG)
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Colour signal: converted subscarrier phase shift recording
Audio Track:	1 track
Tape Format:	Tape width 12.7mm high density tape
Tape Speed:	23.39mm/s
Record/Playback Time:	240min. with NV-E240
FF/REW Time:	Less than 4.5min. with NV-E180
Heads:	Video: 3 rotary heads 1 pair for normal recording and playback (R-L Head) 1 pair for trick play (L-L′ Head) (field still) Audio/Control: 1 stationary head Erase: 1 full track erase
Input Level:	Video: VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminated Audio: LINE IN jack (Phono jack) More than −20dB, 50kΩ
TV Tuners:	NV-600EG VHF CH2 ~ CH12 UHF CH21 ~ CH69 NV-600EO VHF CHE2 ~ CHU9 UHF CH21 ~ CH69
Output Level:	Video: VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminated Audio: LINE OUT jack (Phono jack) −6dB, less than 1kΩ RF Modulated: UHF 36 ± 4CH 76 ± 3dBμ 75Ω terminated
Weight:	9.8kg
Dimensions:	430(W) × 129(H) × 373(D)mm
Accessory Supplied:	1 pc. DIN-RF Cable VJA0130 1 pc. Wireless Remote Controller (VSQ0305)
Optional Accessories:	Video cassette tape: NV-E240 Approx. 344m, 240min. NV-E180 Approx. 258m, 180min. NV-E120 Approx. 174m, 120min. NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

INTRODUCTION

This supplementary service manual contains technical information which will allows service technicians to understand and service the PAL VHS Video Cassette Recorder Model NV-600EG/EO.

This service manual is based on NV-600E service manual.

Therefore please refer to the descriptions which are shown in NV-600E service manual, Order No. VRD-8306-430.

CONTENTS

SPECIFICATIONS .... Cover

COMPARISON CHART 1

ELECTRICAL ADJUSTMENT PROCEDURES 6

CHROMINANCE PROCESS BLOCK DIAGRAM 7

LUMINANCE,CHROMINANCE CIRCUIT 8

POWER TRANSFORMER & POWER SUPPLY CIRCUIT 11

TIMER OPERATION & TIMER DECODER CIRCUIT 12

TV DEMODULATOR CIRCUIT 14

SMALL CIRCUIT BOARD 15

INTERCONNECTION SCHEMATIC DIAGRAM 16

ELECTRICAL REPLACEMENT PARTS LIST 17

COMPARISON CHART

This chart is described different part from the basic model NV-600E to the new model NV-600EG/EO.

"IMPORTANT SAFETY NOTICE
Components identified by ⚠ have special characteristics important for safety.
When replacing any of these components, use only the original ones.

NV-600EG

Mechanical Replacement Parts Ⓐ... Added, Ⓒ... Changed, Ⓓ... Deleted

Page	Ref. No.	NV-600E Parts No.	NV-600EG Parts No.	Pcs/ Set	Parts Name & Description
4-7	168(5)	VEK2027	--	1 → 0	Rear Jack Unit Ⓓ
4-7	168(5)	--	VJB00A61	0 → 1	Output Jack Unit Ⓐ
4-7	168(5)	--	VEJ0287	0 → 1	Output Jack Board Unit Ⓐ
4-7	195(5)	VGU0543	VGU1103	1	Counter Reset Button Ⓒ
4-8	212(6)	VQF1107	VQF1126	1	⚠ Fan Bag Kit Ⓒ
4-8	216(6)	VPG1486	VPG1521	1	Packing Case Ⓒ

Electrical Replacement Parts

Page	Ref. No.	NV-600E Parts No.	NV-600EG Parts No.	Pcs/ Set	Parts Name & Description
		VEP03191A	VEP03191C	1	⚠ Luminance, Chrominance, Audio & Power Supply P.C.Board Unit Ⓒ
	Q1001	2SD636	2SD1206 (Q,R,S)	1	Transistor Ⓒ
	R1003	ERDS2TJ682	ERDS2TJ392	1	Resistor Ⓒ
	R1016	ERDS2TJ332	ERDS2TJ152	1	Resistor Ⓒ
	C1002	ECEA1ES221	ECEA1ES470	1	Capacitor Ⓒ
	L1001	--	VLQEL06F102K	0 → 1	Coil Ⓐ

Page	Ref. No.	NV-600E Parts No.	NV-600EG Parts No.	Pcs/ Set	Parts Name & Description	
	Q3021	2SD1205	2SD1205(Q,R)	1	Transistor	Ⓒ
	D3028	--	MA165	0 → 1	Diode	Ⓐ
	R3105	ERDS2TJ332	ERDS2TJ222	1	Resistor	Ⓒ
	R3106	ERDS2TJ223	ERDS2TJ472	1	Resistor	Ⓒ
	R3237	ERDS2TJ181	ERDS2TJ102	1	Resistor	Ⓒ
	R3238	---	ERDS2TJ181	1	Resistor	Ⓐ
	IC8001	---	AN6308	0 → 1	Integrated Circuit	Ⓐ
	IC8004	---	BA7007	0 → 1	Integrated Circuit	Ⓐ
	Q8006	---	2SD636	0 → 1	Transistor	Ⓐ
	Q8012	---	2SD636	0 → 1	Transistor	Ⓐ
	Q8015	---	2SC1327	0 → 1	Transistor	Ⓐ
	Q8017	---	2SC2206	0 → 1	Transistor	Ⓐ
	Q8018	---	2SC2206	0 → 1	Transistor	Ⓐ
	Q8020	---	2SD636	0 → 1	Transistor	Ⓐ
	R8006	ERDS2TJ333	ERDS2TJ473	1	Resistor	Ⓒ
	R8037	---	ERDS2TJ822	0 → 1	Resistor	Ⓐ
	R8038	---	ERDS2TJ272	0 → 1	Resistor	Ⓐ
	R8039	---	ERDS2TJ681	0 → 1	Resistor	Ⓐ
	R8046	ERDS2TJ123	ERDS2TJ103	1	Resistor	Ⓒ
	R8047	ERDS2TJ103	ERDS2TJ562	1	Resistor	Ⓒ
	R8048	---	ERDS2TJ103	0 → 1	Resistor	Ⓐ
	R8049	---	ERDS2TJ153	0 → 1	Resistor	Ⓐ
	R8058	---	ERDS2TJ102	0 → 1	Resistor	Ⓐ
	R8059	---	ERDS2TJ102	0 → 1	Resistor	Ⓐ

Page	Ref. No.	NV-600E Parts No.	NV-600EG Parts No.	Pcs/ Set	Parts Name & Description
	R8060	---	ERDS2TJ562	0 → 1	Resistor Ⓐ
	R8070	---	ERDS2TJ562	0 → 1	Resistor Ⓐ
	R8071	---	ERDS2TJ103	0 → 1	Resistor Ⓐ
	R8072	---	ERDS2TJ331	0 → 1	Resistor Ⓐ
	R8073	---	ERDS2TJ472	0 → 1	Resistor Ⓐ
	R8074	---	ERDS2TJ150	0 → 1	Resistor Ⓐ
	R8075	---	ERDS2TJ331	0 → 1	Resistor Ⓐ
	R8076	---	ERDS2TJ222	0 → 1	Resistor Ⓐ
	R8077	---	ERDS2TJ154	0 → 1	Resistor Ⓐ
	R8078	---	ERDS2TJ564	0 → 1	Resistor Ⓐ
	R8079	---	ERDS2TJ473	0 → 1	Resistor Ⓐ
	R8080	---	ERDS2TJ393	0 → 1	Resistor Ⓐ
	R8081	---	ERDS2TJ822	0 → 1	Resistor Ⓐ
	R8082	---	ERDS2TJ102	0 → 1	Resistor Ⓐ
	R8083	---	ERDS2TJ222	0 → 1	Resistor Ⓐ
	R8084	---	ERDS2TJ563	0 → 1	Resistor Ⓐ
	R8085	---	ERDS2TJ223	0 → 1	Resistor Ⓐ
	R8087	---	ERDS2TJ104	0 → 1	Resistor Ⓐ
	R8088	---	ERDS2TJ473	0 → 1	Resistor Ⓐ
	R8089	---	ERDS2TJ473	0 → 1	Resistor Ⓐ
	R8090	---	ERDS2TJ102	0 → 1	Resistor Ⓐ
	C8004	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8005	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8006	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ

Page	Ref. No.	NV-600E Parts No.	NV-600EG Parts No.	Pcs/ Set	Parts Name & Description
	C8019	---	ECKF1H102KB	0 → 1	Capacitor Ⓐ
	C8042	---	ECKF1H472KB	0 → 1	Capacitor Ⓐ
	C8043	---	ECKF1H681KB	0 → 1	Capacitor Ⓐ
	C8044	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8045	---	ECKF1H181KB	0 → 1	Capacitor Ⓐ
	C8046	---	ECKF1H121KB	0 → 1	Capacitor Ⓐ
	C8047	---	ECKF1H331KB	0 → 1	Capacitor Ⓐ
	C8048	---	ECCF1H270J	0 → 1	Capacitor Ⓐ
	C8049	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8050	---	ECEA1CS330	0 → 1	Capacitor Ⓐ
	C8051	---	ECEA1CS100	0 → 1	Capacitor Ⓐ
	C8052	---	ECEA1CS101	0 → 1	Capacitor Ⓐ
	C8053	---	ECQM1H183JV	0 → 1	Capacitor Ⓐ
	C8054	---	ECCF1H330J	0 → 1	Capacitor Ⓐ
	C8055	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8063	---	ECKF1H103ZF	0 → 1	Capacitor Ⓐ
	C8064	---	ECKF1H182KB	0 → 1	Capacitor Ⓐ
	L8009	---	VLQEL07L682J	0 → 1	Coil Ⓐ
	L8010	---	VLQEL07L682J	0 → 1	Coil Ⓐ
	L8011	---	ELQEL06F101K	0 → 1	Coil Ⓐ
	L8012	---	VLQEL06F150	0 → 1	Coil Ⓐ
	L8013	---	ELM10Q011C	0 → 1	Coil Ⓐ
	FL8005	---	VLF0143	0 → 1	Filter Ⓐ
		QBG1372	VGF0104	1	LED Holder → LED Spacer (Operation P.C.Board) Ⓒ

NV-600EO

Mechanical Replacement Parts Ⓐ... Added, Ⓒ... Changed, Ⓓ.. Deleted

Page	Ref. No.	NV-600E Parts No.	NV-600EO Parts No.	Pcs/ Set	Parts Name & Description	
4-7	168(5)	VEK2027	---	1 → 0	Rear Jack Unit	Ⓓ
4-7	168(5)	---	VJB00A61	0 → 1	Output Jack P.C.B.	Ⓐ
4-7	168(5)	---	VEJ0287	0 → 1	Output Jack Board Unit	Ⓐ
4-7	195(5)	VGU0543	VGU1103	1	Counter Reset Button	Ⓒ
4-8	212(6)	VQF1107	VQF1135	1	⚠ Fan Bag Kit	Ⓒ
4-8	216(6)	VPG1486	VPG1536	1	Packing Case	Ⓒ

Electrical Replacement Parts

Page	Ref. No.	NV-600E Parts No.	NV-600EO Parts No.	Pcs/ Set	Parts Name & Description	
		VEP07177B	VEP07177F	1	⚠ TV Demodulator P.C. Board Unit	Ⓒ
		VEP07179A	VEP07179C	1	⚠ Timer Decoder P.C. Board Unit	Ⓒ
		ENPE725	ENPE727	1	⚠ Antenna Booster	Ⓒ
	R1003	ERDS2TJ682	ERDS2TJ392	1	Resistor	Ⓒ
	C1002	ECEA1ES221	ECEA1ES470	1	Capacitor	Ⓒ
	L1001	---	VLQEL06F102K	0 → 1	Coil	Ⓐ
	Q3021	2SD1205	2SD1205(Q,R)	1	Transistor	Ⓒ
	R8006	ERDS2TJ333	ERDS2TJ473	1	Resistor	Ⓒ
	R8046	ERDS2TJ123	ERDS2TJ822	1	Resistor	Ⓒ
	R8047	ERDS2TJ103	ERDS2TJ822	1	Resistor	Ⓒ

Page	Ref. No.	NV-600E Parts No.	NV-600EO Parts No.	Pcs/ Set	Parts Name & Description
		VEP07177B	VEP07177F	1	TV Demodulator P.C. Board Unit Ⓒ
	C704	ECEA1CS330	ECQV05104J	1	Capacitor Ⓒ
	C728	ECCF1F100DR	ECCF1H150JR	1	Capacitor Ⓒ
	C743	ECQV05104JZ	ECQV05103JZ	1	Capacitor Ⓒ
		TNV77759F2	TNV57756F2R	1	Tuner Ⓒ
		VEP07179A	VEP07179C	1	Timer Decoder P.C. Board Unit Ⓒ
	R7517	--	ERDS2TJ102	0 → 1	Resistor Ⓐ
	R7526	ERDS2TJ104	ER010TKG1003	1	Resistor Ⓒ
	R7575	ERDS2TJ334	ER025SKG6813	1	Resistor Ⓒ
	P7503	VJP1235	VJP1237	1	Connector Ⓒ
		QBG1372	VGF0104	1	LED Holder → LED Spacer (Operation P.C.Board) Ⓒ

ELECTRICAL ADJUSTMENT PROCEDURES

LUMINANCE & CHROMINANCE SECTION

Model No.: NV-600EG

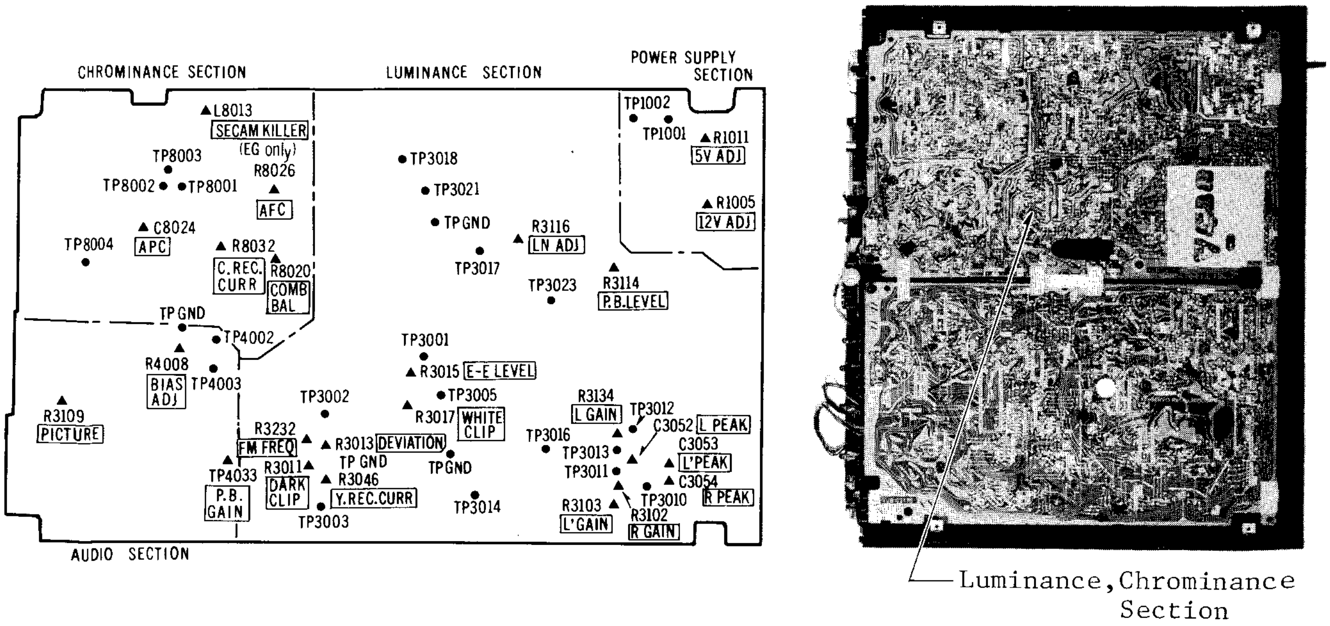

CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
L8013
SECAM KILLER
(EG only)
TP8003
R8026
TP8002
TP8001
AFC
C8024
TP8004
APC
R8032
C.REC. CURR
R8020
COMB BAL
TP GND
TP4002
R4008
BIAS ADJ
TP4003
R3109
PICTURE
TP3002
R3232
FM FREQ
R3013
DEVIATION
TP4033
R3011
TP GND
R3046
P.B. GAIN
DARK CLIP
Y.REC.CURR
TP3003
AUDIO SECTION
TP3018
TP3021
TP GND
R3116
LN ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TP GND
TP3014
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
R PEAK
TP3010
R3103
L'GAIN
R3102
R GAIN
Luminance, Chrominance Section

Fig. 1. Luminance, Chrominance Section

1. SECAM Killer Adjustment

Test Point: IC8004-9
Adjustment: L8013 (SECAM KILLER)

1. Supply a SECAM colour bar signal to the Video Input on the Front Panel, and place the deck in REC.PLAY mode.
2. Connect the scope to IC8004-9 pin on the chrominance section.
3. Adjust L8013 on the same section so that the point "A" is the lower peak on the waveform as shown below.

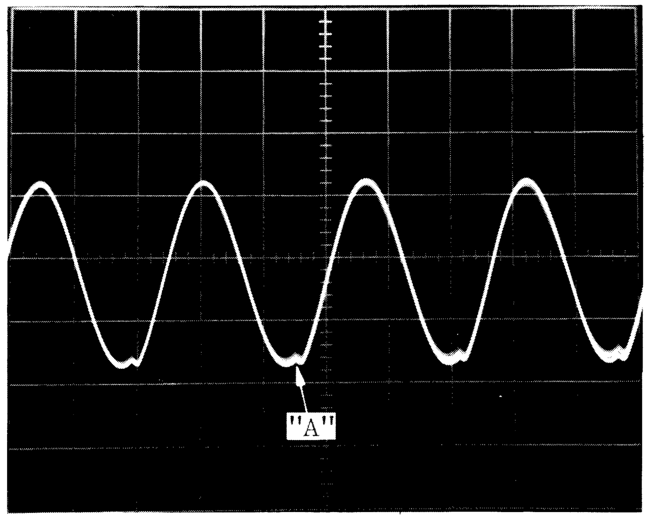
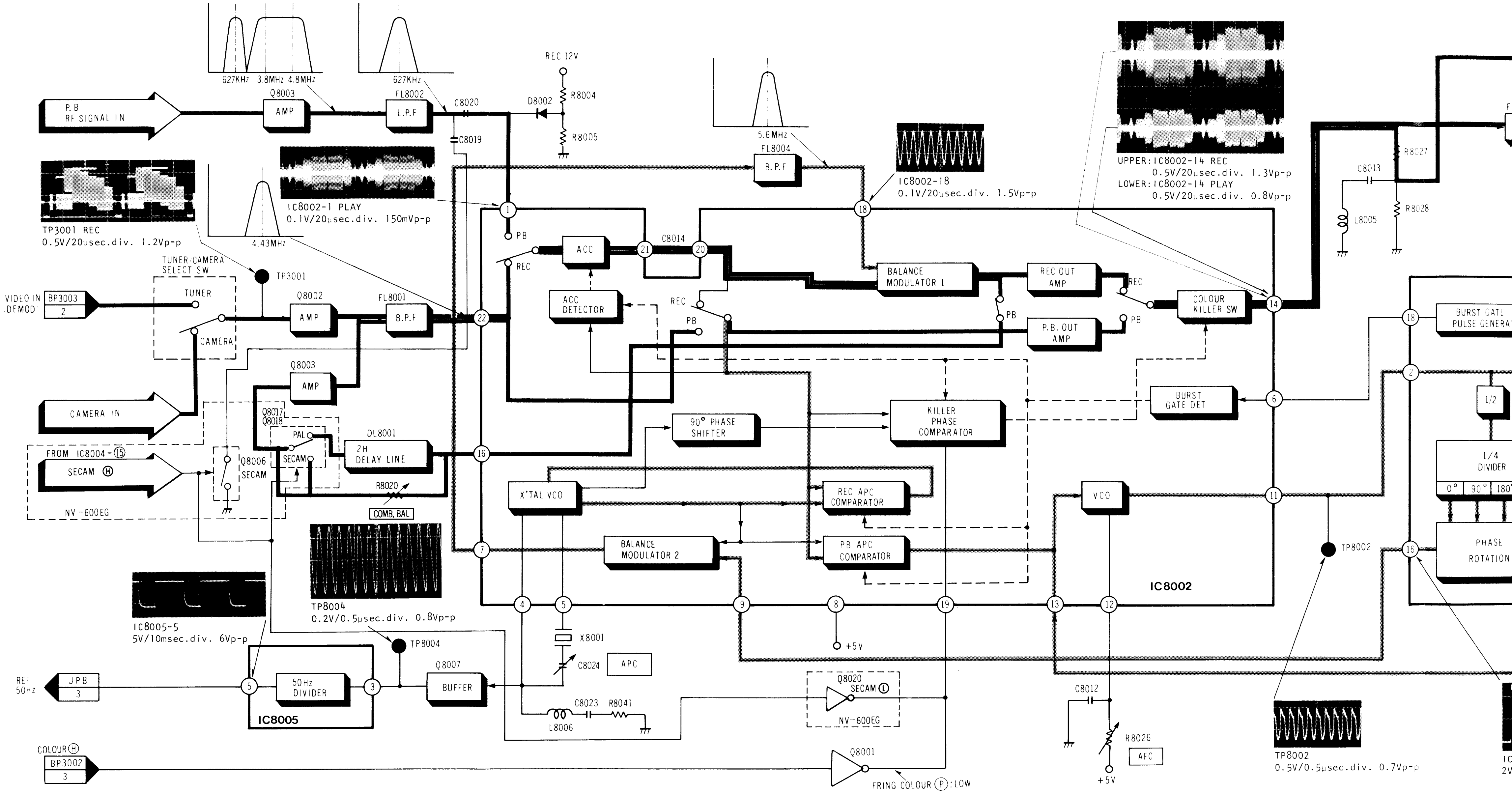


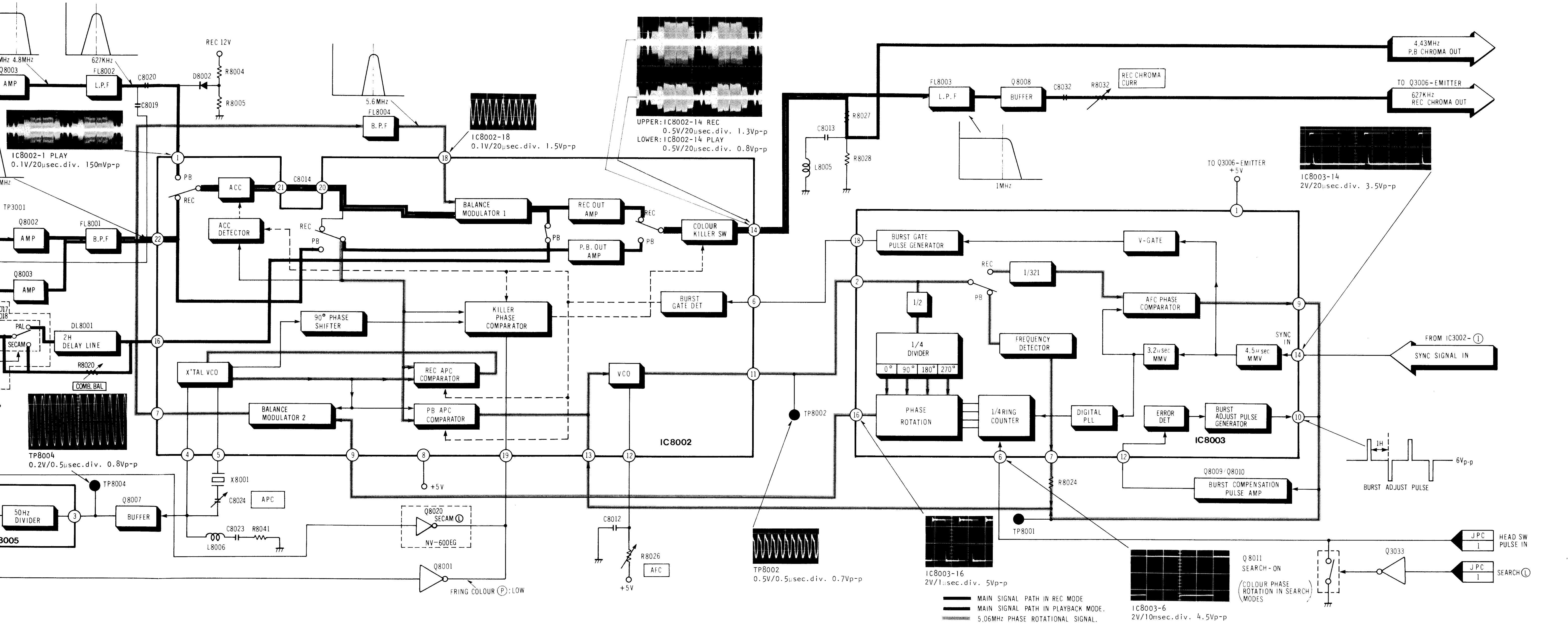
Fig. 2. 2V/50μsec. div.

CHROMINANCE PROCESS BLOCK DIAGRAM



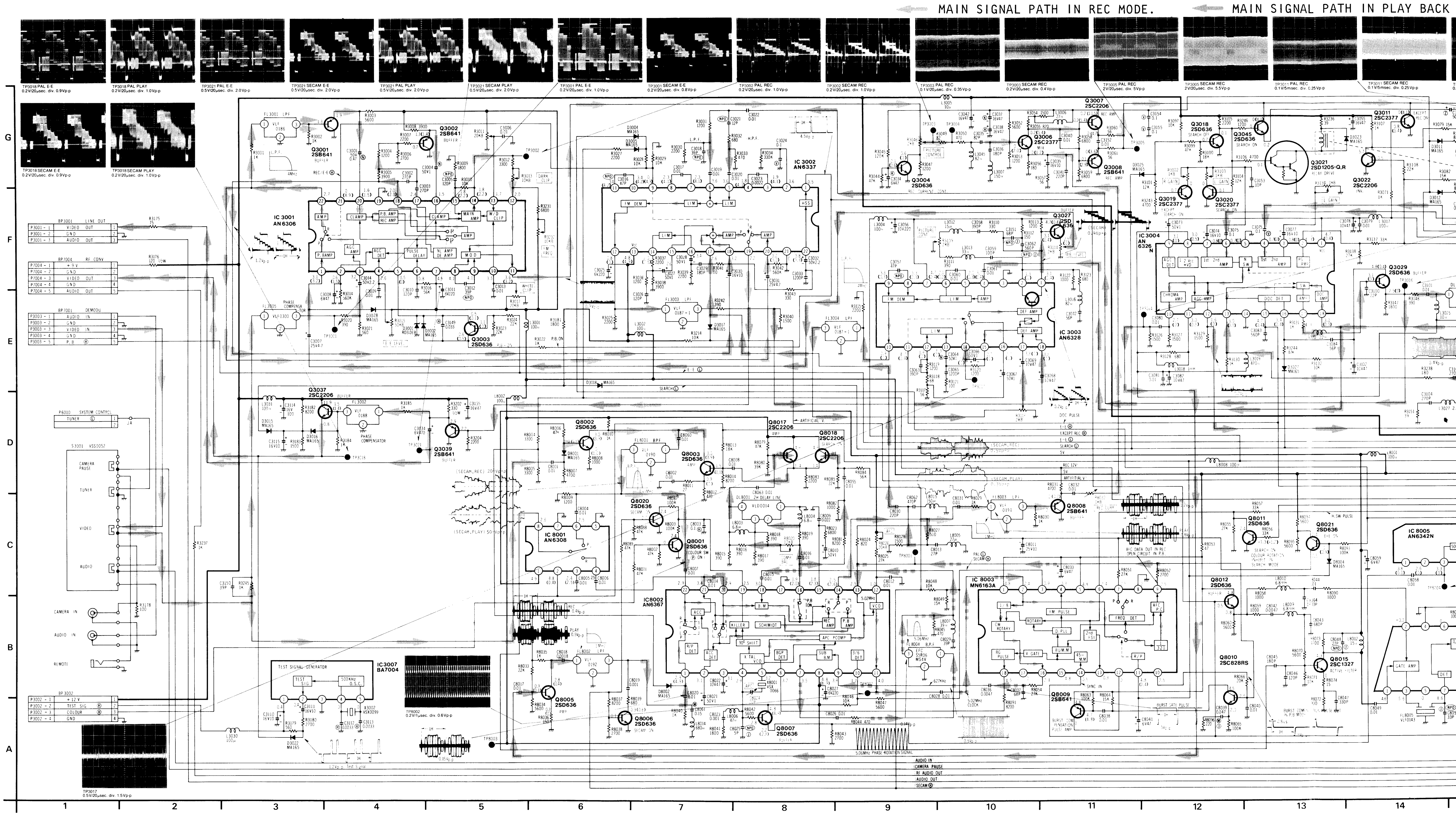
627KHz 3.8MHz 4.8MHz
627KHz
P.B RF SIGNAL IN
Q8003
AMP
FL8002
L.P.F
C8020
C8019
REC 12V
D8002
R8004
R8005
5.6MHz
FL8004
B.P.F
IC8002-18
0.1V/20μsec.div. 1.5Vp-p
UPPER: IC8002-14 REC
0.5V/20μsec.div. 1.3Vp-p
LOWER: IC8002-14 PLAY
0.5V/20μsec.div. 0.8Vp-p
C8013
R8027
R8028
L8005
TP3001 REC
0.5V/20μsec.div. 1.2Vp-p
IC8002-1 PLAY
0.1V/20μsec.div. 150mVp-p
4.43MHz
TUNER/CAMERA SELECT SW
TP3001
TUNER
CAMERA
VIDEO IN DEMOD
BP3003
2
Q8002
AMP
FL8001
B.P.F
PB
REC
ACC
ACC DETECTOR
C8014
REC
PB
BALANCE MODULATOR 1
REC OUT AMP
P.B. OUT AMP
REC
PB
PB
COLOUR KILLER SW
BURST GATE PULSE GENERAT
Q8003
AMP
CAMERA IN
Q8017
Q8018
PAL
SECAM
Q8006
SECAM
DL8001
2H DELAY LINE
R8020
COMB. BAL
FROM IC8004-⑮
SECAM Ⓗ
NV-600EG
90° PHASE SHIFTER
KILLER PHASE COMPARATOR
BURST GATE DET
1/2
1/4 DIVIDER
0° 90° 180
X'TAL VCO
REC APC COMPARATOR
PB APC COMPARATOR
BALANCE MODULATOR 2
VCO
TP8002
PHASE ROTATION
IC8002
1
22
21
20
18
14
16
6
7
4
5
9
8
19
13
12
11
2
+5V
X8001
C8024
APC
C8023
R8041
L8006
TP8004
0.2V/0.5μsec.div. 0.8Vp-p
IC8005-5
5V/10msec.div. 6Vp-p
TP8004
Q8007
BUFFER
REF 50Hz
JPB
3
50Hz DIVIDER
IC8005
Q8020
SECAM Ⓛ
NV-600EG
C8012
R8026
AFC
+5V
TP8002
0.5V/0.5μsec.div. 0.7Vp-p
COLOUR Ⓗ
BP3002
3
Q8001
FRING COLOUR Ⓟ: LOW

PROCESS BLOCK DIAGRAM

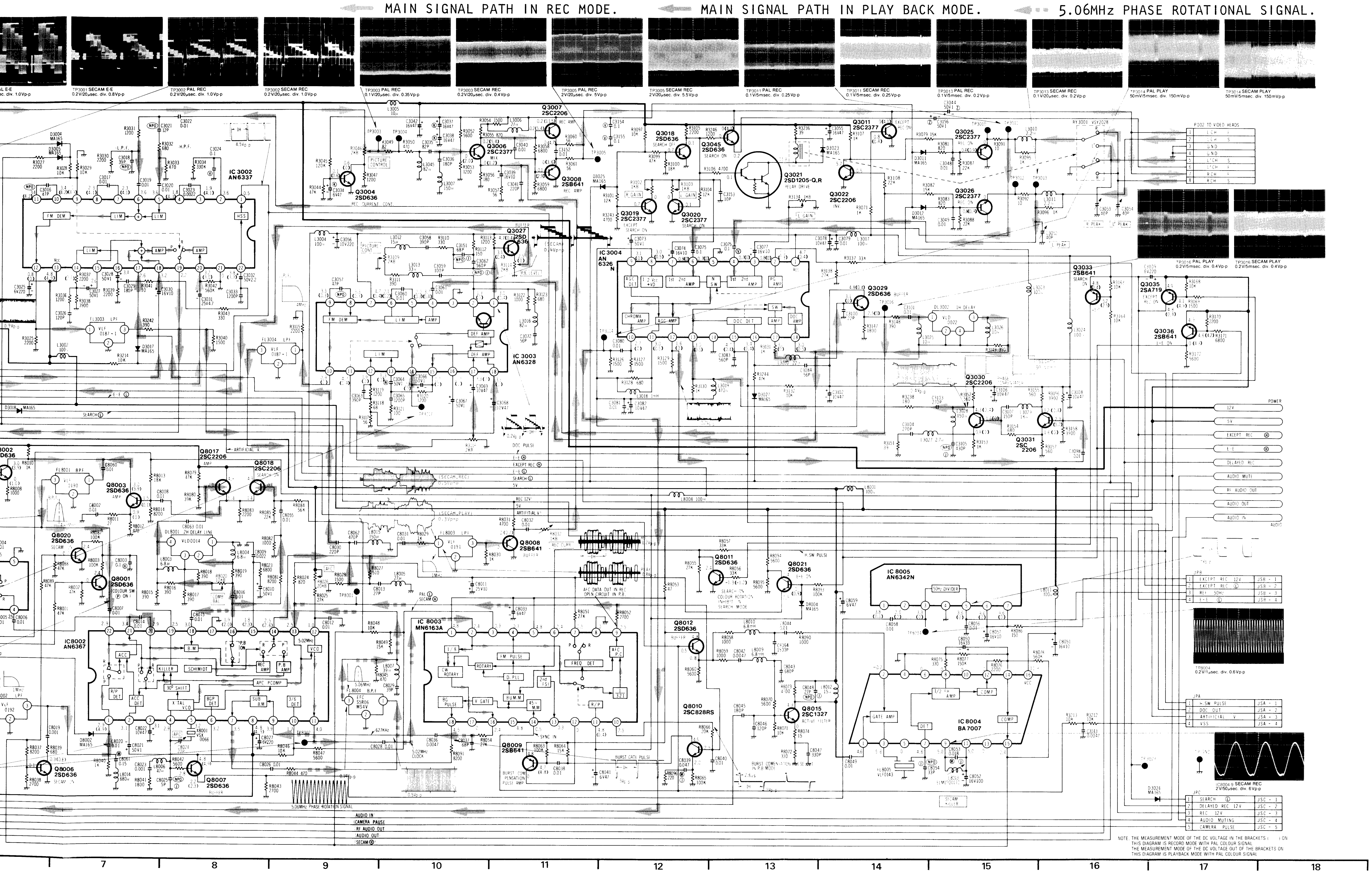


MHz 4.8MHz
Q8003
AMP
627KHz
FL8002
L.P.F
C8020
C8019
D8002
REC 12V
R8004
R8005
5.6MHz
FL8004
B.P.F
IC8002-18
0.1V/20μsec.div. 1.5Vp-p
IC8002-1 PLAY
0.1V/20μsec.div. 150mVp-p
UPPER: IC8002-14 REC
0.5V/20μsec.div. 1.3Vp-p
LOWER: IC8002-14 PLAY
0.5V/20μsec.div. 0.8Vp-p
TP3001
Q8002
AMP
FL8001
B.P.F
PB
REC
ACC
C8014
ACC DETECTOR
BALANCE MODULATOR 1
REC OUT AMP
P.B. OUT AMP
COLOUR KILLER SW
BURST GATE DET
KILLER PHASE COMPARATOR
90° PHASE SHIFTER
Q8003
AMP
DL8001
2H DELAY LINE
PAL
SECAM
R8020
COMB. BAL
X'TAL VCO
REC APC COMPARATOR
PB APC COMPARATOR
BALANCE MODULATOR 2
VCO
IC8002
TP8004
0.2V/0.5μsec.div. 0.8Vp-p
TP8004
50Hz DIVIDER
8005
Q8007
BUFFER
X8001
C8024
APC
C8023
R8041
L8006
Q8020
SECAM Ⓛ
NV-600EG
Q8001
FRING COLOUR Ⓟ: LOW
+5V
C8012
R8026
AFC
+5V
TP8002
TP8002
0.5V/0.5μsec.div. 0.7Vp-p
FL8003
L.P.F
Q8008
BUFFER
C8032
R8032
REC CHROMA CURR
C8013
R8027
R8028
L8005
1MHz
4.43MHz
P.B CHROMA OUT
TO Q3006-EMITTER
627KHz
REC CHROMA OUT
TO Q3006-EMITTER
+5V
IC8003-14
2V/20μsec.div. 3.5Vp-p
BURST GATE PULSE GENERATOR
V-GATE
REC
1/321
PB
1/2
AFC PHASE COMPARATOR
1/4 DIVIDER
0° 90° 180° 270°
FREQUENCY DETECTOR
3.2μsec MMV
4.5μsec MMV
SYNC IN
FROM IC3002-①
SYNC SIGNAL IN
PHASE ROTATION
1/4 RING COUNTER
DIGITAL PLL
ERROR DET
BURST ADJUST PULSE GENERATOR
IC8003
1H
6Vp-p
BURST ADJUST PULSE
Q8009/Q8010
BURST COMPENSATION PULSE AMP
R8024
TP8001
IC8003-16
2V/1μsec.div. 5Vp-p
IC8003-6
2V/10msec.div. 4.5Vp-p
Q8011
SEARCH-ON
(COLOUR PHASE ROTATION IN SEARCH MODES)
Q3033
JPC 1
HEAD SW PULSE IN
JPC 1
SEARCH Ⓛ
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL

LUMINANCE, CHROMINANCE SCHEMATIC DIAGRAM (NV-600EG)


MAIN SIGNAL PATH IN REC MODE.
MAIN SIGNAL PATH IN PLAY BACK
TP3018 PAL E-E 0.2V/20μsec. div. 0.9Vp-p
TP3018 PAL PLAY 0.2V/20μsec. div. 1.0Vp-p
TP3021 PAL E-E 0.5V/20μsec. div. 2.0Vp-p
TP3021 SECAM E-E 0.5V/20μsec. div. 2.0Vp-p
TP3021 PAL PLAY 0.5V/20μsec. div. 2.0Vp-p
TP3021 SECAM PLAY 0.5V/20μsec. div. 2.0Vp-p
TP3001 PAL E-E 0.2V/20μsec. div. 1.0Vp-p
TP3001 SECAM E-E 0.2V/20μsec. div. 0.8Vp-p
TP3002 PAL REC 0.2V/20μsec. div. 1.0Vp-p
TP3002 SECAM REC 0.2V/20μsec. div. 1.0Vp-p
TP3003 PAL REC 0.1V/20μsec. div. 0.35Vp-p
TP3003 SECAM REC 0.2V/20μsec. div. 0.4Vp-p
TP3005 PAL REC 2V/20μsec. div. 5Vp-p
TP3005 SECAM REC 2V/20μsec. div. 5.5Vp-p
TP3011 PAL REC 0.1V/5msec. div. 0.25Vp-p
TP3011 SECAM REC 0.1V/5msec. div. 0.25Vp-p
TP3018 SECAM E-E 0.2V/20μsec. div. 0.9Vp-p
TP3018 SECAM PLAY 0.2V/20μsec. div. 1.0Vp-p
TP3017 0.5V/20μsec. div. 1.5Vp-p
TP8002 0.2V/1μsec. div. 0.6Vp-p
IC 3001 AN6306
IC 3002 AN6337
IC 3003 AN6328
IC 3004 AN6326N
IC3007 BA7004
IC 8001 AN6308
IC8002 AN6367
IC 8003 MN6163A
IC 8005 AN6342N
Q3001 2SB641 BUFFER
Q3002 2SB641 BUFFER
Q3003 2SD636
Q3004 2SD636
Q3006 2SC2377
Q3007 2SC2206 REC AMP
Q3008 2SB641
Q3011 2SC2377
Q3018 2SD636 SEARCH OFF
Q3045 2SD636 SEARCH ON
Q3019 2SC2377
Q3020 2SC2377
Q3021 2SD1205-Q,R
Q3022 2SC2206
Q3027 2SD636
Q3029 2SD636 BUFFER
Q3037 2SC2206 BUFFER
Q3039 2SB641 BUFFER
Q8001 2SD636 COLOUR SW
Q8002 2SD636
Q8003 2SD636
Q8005 2SD636
Q8006 2SD636
Q8007 2SD636
Q8008 2SB641
Q8009 2SB641
Q8010 2SC828RS
Q8011 2SD636
Q8012 2SD636
Q8015 2SC1327 ACTIVE FILTER
Q8017 2SC2206
Q8018 2SC2206
Q8020 2SD636
Q8021 2SD636
P3001 LINE OUT
P7004 RF CONV
P3003 DEMODU
P6010 SYSTEM CONTROL
S3001 VSS0052
P3002
TEST SIGNAL GENERATOR
CAMERA IN
AUDIO IN
REMOTE
5.06MHz PHASE ROTATION SIGNAL
AUDIO IN
CAMERA PAUSE
RF AUDIO OUT
AUDIO OUT
SECAM
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
]

M (NV-600EG)


MAIN SIGNAL PATH IN REC MODE.
MAIN SIGNAL PATH IN PLAY BACK MODE.
5.06MHz PHASE ROTATIONAL SIGNAL.
AL E-E
ec. div. 1.0Vp-p
TP3001 SECAM E-E
0.2V/20μsec. div. 0.8Vp-p
TP3002 PAL REC
0.2V/20μsec. div. 1.0Vp-p
TP3002 SECAM REC
0.2V/20μsec. div. 1.0Vp-p
TP3003 PAL REC
0.1V/20μsec. div. 0.35Vp-p
TP3003 SECAM REC
0.2V/20μsec. div. 0.4Vp-p
TP3005 PAL REC
2V/20μsec. div. 5Vp-p
TP3005 SECAM REC
2V/20μsec. div. 5.5Vp-p
TP3011 PAL REC
0.1V/5msec. div. 0.25Vp-p
TP3011 SECAM REC
0.1V/5msec. div. 0.25Vp-p
TP3013 PAL REC
0.1V/5msec. div. 0.2Vp-p
TP3013 SECAM REC
0.1V/20μsec. div. 0.2Vp-p
TP3014 PAL PLAY
50mV/5msec. div. 150mVp-p
TP3014 SECAM PLAY
50mV/5msec. div. 150mVp-p
TP3016 PAL PLAY
0.2V/5msec. div. 0.4Vp-p
TP3016 SECAM PLAY
0.2V/5msec. div. 0.4Vp-p
TP8004
0.2V/1μsec. div. 0.6Vp-p
IC8004-9 SECAM REC
2V/50μsec. div. 6Vp-p
IC 3002
AN6337
IC 3003
AN6328
IC 3004
AN6326N
IC8002
AN6367
IC 8003
MN6163A
IC8004
BA7007
IC 8005
AN6342N
Q3004
2SD636
Q3006
2SC2377
Q3007
2SC2206
Q3008
2SB641
Q3018
2SD636
Q3045
2SD636
Q3019
2SC2377
Q3020
2SC2377
Q3021
2SD1205-Q,R
Q3022
2SC2206
Q3011
2SC2377
Q3025
2SC2377
Q3026
2SC2377
Q3027
2SD636
Q3029
2SD636
Q3030
2SC2206
Q3031
2SC2206
Q3033
2SB641
Q3035
2SA719
Q3036
2SB641
Q8001
2SD636
Q8003
2SD636
Q8006
2SD636
Q8007
2SD636
Q8008
2SB641
Q8009
2SB641
Q8010
2SC828RS
Q8011
2SD636
Q8012
2SD636
Q8015
2SC1327
Q8017
2SC2206
Q8018
2SC2206
Q8020
2SD636
Q8021
2SD636
RY3001 VSY2028
P002 TO VIDEO HEADS
1 LCH F
2 LCH S
3 GND
4 GND
5 LCH S
6 LCH F
7 RCH F
8 RCH S
POWER
12V
5V
EXCEPT REC Ⓡ
E-E Ⓔ
DELAYED REC
AUDIO MUTE
RF AUDIO OUT
AUDIO OUT
AUDIO IN
AUDIO
JPA
1 EXCEPT REC 12V JSA-1
2 EXCEPT REC Ⓡ JSA-2
3 REF 50Hz JSA-3
4 E-E Ⓔ JSA-4
JPA
1 H.SW PULSE JSA-1
2 DOC OUT JSA-2
3 ARTIFICIAL V JSA-3
4 VSS JSA-4
JPC
1 SEARCH Ⓛ JSC-1
2 DELAYED REC 12V JSC-2
3 REC 12V JSC-3
4 AUDIO MUTING JSC-4
5 CAMERA PULSE JSC-5
5.06MHz PHASE ROTATION SIGNAL
AUDIO IN
CAMERA PAUSE
RF AUDIO OUT
AUDIO OUT
SECAM Ⓢ
NOTE. THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON
THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON
THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL
7
8
9
10
11
12
13
14
15
16
17
18

Luminance & Chrominance Schematic	
Q3001	G-4
Q3002	G-5
Q3003	E-5
Q3004	G-9
Q3006	G-10
Q3007	G-11
Q3008	G-11
Q3011	G-14
Q3018	G-12
Q3019	F-12
Q3020	F-12
Q3021	G-13
Q3022	G-14
Q3025	G-15
Q3026	F-15
Q3027	F-11
Q3029	F-14
Q3030	D-15
Q3031	D-16
Q3033	F-16
Q3035	F-17
Q3036	E-17
Q3037	D-4
Q3039	D-5
Q3045	G-13
Q8001	C-7
Q8002	D-6
Q8003	D-7
Q8005	B-6
Q8006	A-6
Q8007	A-8
Q8008	C-11
Q8009	A-11
Q8010	A-12
Q8011	C-13
Q8012	B-12
Q8015	B-13
Q8017	D-8
Q8018	D-8
Q8020	C-7
Q8021	C-13
IC3001	F-4
IC3002	F-7
IC3003	E-10
IC3004	F-12
IC3007	B-4
IC8001	C-6
IC8002	B-8
IC8003	B-11
IC8004	B-15
IC8005	C-14

LUMINANCE & CHROMINANCE ICs VOLTAGE CHART

REF. NO.		IC3001																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	3.1	0.6	3.2	2.6	0.5	0.8	4.9	4.1	4.1	3.5	3.6	2.0	1.7	1.8	1.8	1.5	2.4	2.0	0	1.6
	REC	3.2	1.5	3.2	2.6	0	0.8	4.9	4.1	4.1	3.5	3.2	2.0	1.7	2.2	2.2	1.5	2.4	2.1	0	1.5
SECAM	PLAY	3.1	0.6	3.2	2.6	0.5	0.8	4.9	4.1	4.1	3.5	3.6	2.0	1.7	1.8	1.8	1.5	2.4	2.0	0	1.6
	REC	3.2	1.5	3.2	2.6	0	0.8	4.9	4.1	4.1	3.5	3.2	2.0	1.7	2.2	2.2	1.5	2.4	2.1	0	1.5

REF. NO.		IC3001																			
MODE		21	22																		
PAL	PLAY	0	2.7																		
	REC	4.9	2.7																		
SECAM	PLAY	0	2.7																		
	REC	4.9	2.7																		

REF. NO.		IC3002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	0.5	3.6	1.9	1.8	3.6	3.6	2.3	2.3	0	3.4	3.4	0.8	4.8	2.0	2.6	3.4	2.6	3.2	2.2	3.2
	REC	0.5	3.6	4.1	4.1	3.6	3.6	4.1	4.1	4.9	4.2	4.2	0	4.9	2.5	2.6	3.4	2.6	3.2	2.2	3.0
SECAM	PLAY	0.5	3.6	1.9	1.9	3.6	3.6	2.3	2.3	0	3.4	3.4	0.8	4.8	2.0	2.6	3.4	2.6	3.2	2.2	3.2
	REC	0.5	3.6	3.8	3.8	3.6	3.6	3.8	3.8	4.9	3.8	3.8	0	4.9	2.5	2.6	3.4	2.6	3.2	2.2	3.0

REF. NO.		IC3002																			
MODE		21	22																		
PAL	PLAY	0	3.8																		
	REC	0	3.8																		
SECAM	PLAY	0	3.8																		
	REC	0	3.9																		

REF. NO.		IC3003																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
PAL	PLAY	3.1	1.3	0	3.7	2.0	2.1	4.7	3.3	3.3	0.9	4.7	1.9	3.3	2.7	2.7	2.7	3.3	3.3		
	REC	0.4	0	0	0.4	0.3	0.2	0.4	0.3	0.3	0	0.4	0	0	0	0	0	0	0		
SECAM	PLAY	3.1	1.3	0	3.7	2.0	2.1	4.7	3.3	3.3	0.9	4.7	1.9	3.3	2.7	2.7	2.7	3.3	3.3		
	REC	0.4	0	0	0.4	0.3	0.3	0.4	0.3	0.3	0	0.4	0	0	0	0	0	0	0		

REF. NO.		IC3004																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
PAL	PLAY	4.7	2.0	0.8	0.7	0	0.7	0.8	3.0	3.1	2.7	3.0	1.6	3.0	0	4.7	3.4	3.2	3.0		
	REC	0.4	1.8	0	0	0	0	0	0.5	0	0	0.5	0	0.5	0	0.4	0.4	0	0.5		
SECAM	PLAY	4.8	2.0	0.8	0.7	0	0.7	0.8	3.0	3.2	2.7	3.0	1.6	3.0	0	4.7	3.4	3.2	3.0		
	REC	0.5	1.8	0	0	0	0	0	0.5	0	0	0.5	0	0.5	0	0.4	0.4	0	0.5		

REF. NO.		IC3007										IC8001									
MODE		1	2	3	4	5						1	2	3	4	5	6	7	8		
PAL	PLAY	0.4	0.4	0	0	0						4.9	4.8	2.4	2.5	0	2.5	0	2.6		
	REC	0.4	0.4	0	0	0						4.9	0.4	2.5	2.5	0	2.5	0	2.6		
SECAM	PLAY	0.4	0.4	0	0	0						4.9	4.8	2.5	2.5	0	2.5	0	2.6		
	REC	0.4	0.4	0	0	0						4.9	0.4	2.5	2.5	0	2.5	0	2.6		

REF. NO.		IC8002																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PAL	PLAY	2.9	3.1	3.1	2.9	3.2	3.2	3.5	4.8	3.9	1.7	4.0	1.0	2.5	2.5	1.8	1.9	0	3.0	2.5	2.9
	REC	4.9	3.1	3.1	2.9	3.2	3.2	3.5	4.9	3.9	1.7	4.0	1.0	2.5	2.6	2.3	2.0	0	3.0	2.5	2.9
SECAM	PLAY	2.9	3.1	3.1	2.9	3.2	3.2	3.5	4.8	3.9	3.5	4.0	1.0	2.5	2.5	2.4	1.9	0	3.0	1.2	2.9
	REC	4.9	3.1	3.1	2.9	3.2	3.2	3.5	4.9	3.9	3.5	4.0	1.0	2.5	2.6	2.4	2.0	0	3.0	1.2	2.9

REF. NO.		IC8002																			
MODE		21	22																		
PAL	PLAY	3.4	2.9																		
	REC	3.4	2.9																		
SECAM	PLAY	3.4	2.9																		
	REC	3.4	2.9																		

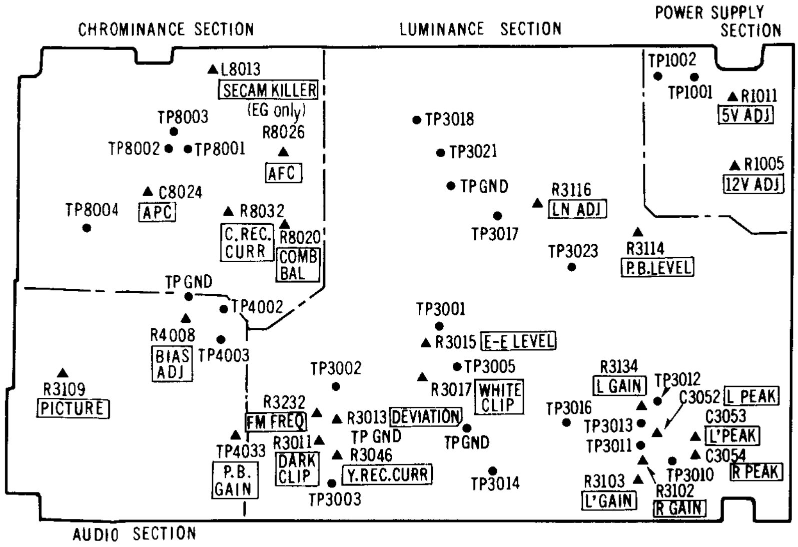
REF. NO.		IC8003																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
PAL	PLAY	4.8	2.4	0.9	0.3	4.8	2.4	2.5	0	2.5	2.5	4.8	0	0.3	0.5	4.8	2.4	0	4.5		
	REC	4.8	2.4	0.9	0.3	4.8	2.4	2.5	0	2.5	2.5	0.4	0	0.3	0.5	4.8	2.4	0	4.5		
SECAM	PLAY	4.8	2.4	4.5	0.3	4.8	2.4	2.5	0	2.5	2.5	4.8	0	0.3	0.5	4.8	2.4	0	4.5		
	REC	4.8	2.4	4.5	0.3	4.8	2.4	2.5	0	2.5	2.5	0.4	0	0.3	0.5	4.8	2.4	0	4.5		

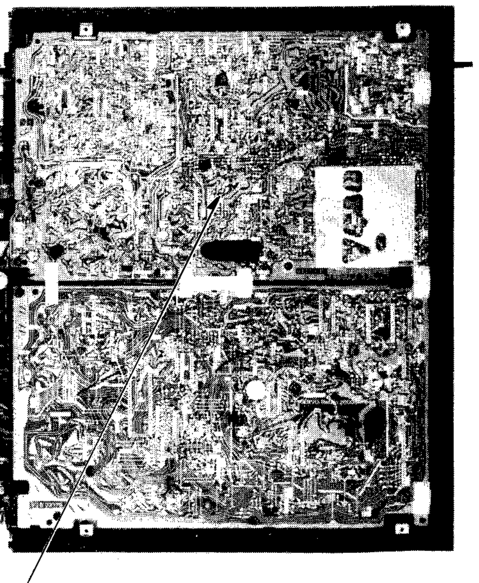
REF. NO.		IC8004																			
MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PAL	PLAY	4.6	−0.2	5.6	0	0	0	4.6	0	5.0	0	5.0	0	0	0	0.4	11.9				
	REC	4.6	−0.2	5.6	0	0	0	4.6	0	5.0	0	5.0	0	0	0	0.4	11.9				
SECAM	PLAY	4.6	−0.2	5.6	0	0	0	4.6	0	4.8	0	4.8	4.6	0	4.6	11.2	11.9				
	REC	4.6	−0.2	5.6	0	0	0	4.6	0	0	0	4.8	4.6	0	4.6	11.2	11.9				

REF. NO.		IC8005																			
MODE		1	2	3	4	5	6	7													
PAL	PLAY	3.8	2.6	3.3	0	3.6	9.6	9.6													
	REC	0.1	0	0	0	0	0	0													
SECAM	PLAY	3.8	2.6	3.3	0	3.6	9.6	9.6													
	REC	0.1	0	0	0	0	0	0													

LUMINANCE & CHROMINANCE TRANSISTORs VOLTAGE CHART

REF. NO.		Q3001			Q3002			Q3003			Q3004			Q3006			Q3007		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	1.9	0	1.3	1.3	0	0.7	0.5	0.6	1.1	0	0.6	0.1	0	0.2	0	0	0.2	0.2
	REC	1.9	0	1.3	1.4	0	0.7	0.1	0.5	0	0	0	0.6	1.2	5.4	2.0	4.7	11.5	5.4
SECAM	PLAY	1.9	0	1.3	1.3	0	0.7	0.5	0.6	1.1	0	0.6	0.1	0	0.2	0	0	0.2	0.2
	REC	1.9	0	1.3	1.4	0	0.7	0.1	0.5	0	0	0	0.6	1.2	5.4	2.0	4.7	11.5	5.4
REF. NO.		Q3008			Q3011			Q3018			Q3019			Q3020			Q3021		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0	0.1	0	0	0.8	0	0.1	0.7	0	0	0.7	0	0	0.1	0	11.9	0.1
	REC	3.6	0	2.9	0	4.1	0.4	0	0.1	0.7	0	0	0.7	0	0	0.1	0	11.9	0.1
SECAM	PLAY	0	0	0.1	0	0	0.8	0	0.1	0.7	0	0	0.7	0	0	0.1	0	11.9	0.1
	REC	3.6	0	2.9	0	4.1	0.4	0	0.1	0.7	0	0	0.7	0	0	0.1	0	11.9	0.1
REF. NO.		Q3022			Q3025			Q3026			Q3027			Q3029			Q3030		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	5.7	0.5	0	0	0.4	0	0	0.4	2.5	4.7	3.1	2.5	4.8	3.1	0.9	4.3	1.6
	REC	0	5.7	0.5	0	0	0.9	0	0	0.9	0	0.4	0.4	0	0.4	0	0	0.4	0
SECAM	PLAY	0	5.7	0.5	0	0	0.4	0	0	0.4	2.5	4.7	3.1	2.5	4.8	3.1	0.9	4.3	1.6
	REC	0	5.7	0.5	0	0	0.9	0	0	0.9	0	0.4	0.4	0	0.4	0	0	0.4	0
REF. NO.		Q3031			Q3033			Q3035			Q3036			Q3037			Q3039		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	1.6	3.2	2.3	4.8	−1.0	5.2	4.9	4.8	4.1	4.9	0	4.6	0.8	11.9	1.5	2.9	0	2.2
	REC	0	0.4	0.2	0.4	−1.0	2.5	4.9	0.4	4.9	4.9	4.9	4.2	0.8	11.9	1.4	2.9	0	2.2
SECAM	PLAY	1.6	3.2	2.3	4.8	−1.0	5.2	4.9	4.8	4.1	4.9	0	4.6	0.8	11.9	1.5	2.9	0	2.2
	REC	0	0.4	0.2	0.4	−1.0	2.5	4.9	0.4	4.9	4.9	4.9	4.2	0.8	11.9	1.4	2.9	0	2.2
REF. NO.		Q3045			Q8001			Q8002			Q8003			Q8005			Q8006		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0.2	0	0	0	2.4	0	0	3.0	0	0.9	3.0	1.5	0.3	2.8	0.9	0	0.3	0.1
	REC	0.2	4.1	0	0	2.4	0	1.0	3.9	1.5	0	3.9	0.1	0	0.4	0.1	0	0.6	0.1
SECAM	PLAY	0.2	0	0	0	1.2	0	0	3.0	0	0.9	3.0	1.5	0.3	2.8	0.9	0	0	0.7
	REC	0.2	4.1	0	0	1.2	0	1.0	3.9	1.5	0	3.9	0.1	0	0.4	0.1	0	0	0.7
REF. NO.		Q8007			Q8008			Q8009			Q8010			Q8011			Q8012		
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	2.2	4.8	2.8	0	0	0	4.8	0	4.7	2.0	4.5	2.5	0	2.4	−1.3	0.8	4.8	0.5
	REC	2.3	4.9	2.8	0.7	0	0	4.8	0	4.8	2.0	4.5	2.5	0	2.4	−1.2	0.8	4.8	0.5
SECAM	PLAY	2.2	4.8	2.8	0	0	0	4.8	0	4.7	2.0	4.5	2.5	0	2.4	−1.3	0.8	4.8	0.5
	REC	2.3	4.9	2.8	0.7	0	0	4.8	0	4.8	2.0	4.5	2.5	0	2.4	−1.2	0.8	4.8	0.5
REF. NO.		Q8015			Q8017			Q8018			Q8020			Q8021					
MODE		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
PAL	PLAY	0	4.9	0	1.4	4.9	2.1	1.4	4.9	0.1	0	2.4	0.2	2.5	2.4	0			
	REC	0	4.9	0	1.4	4.9	2.1	1.4	4.9	0.1	0	2.4	0.2	2.5	2.4	0.9			
SECAM	PLAY	0	4.9	0	2.3	4.9	2.2	2.3	4.9	3.0	0	0	0.6	2.5	2.4	0			
	REC	0	4.9	0	2.3	4.9	2.2	2.3	4.9	3.0	0	0	0.6	2.5	2.5	0.9			

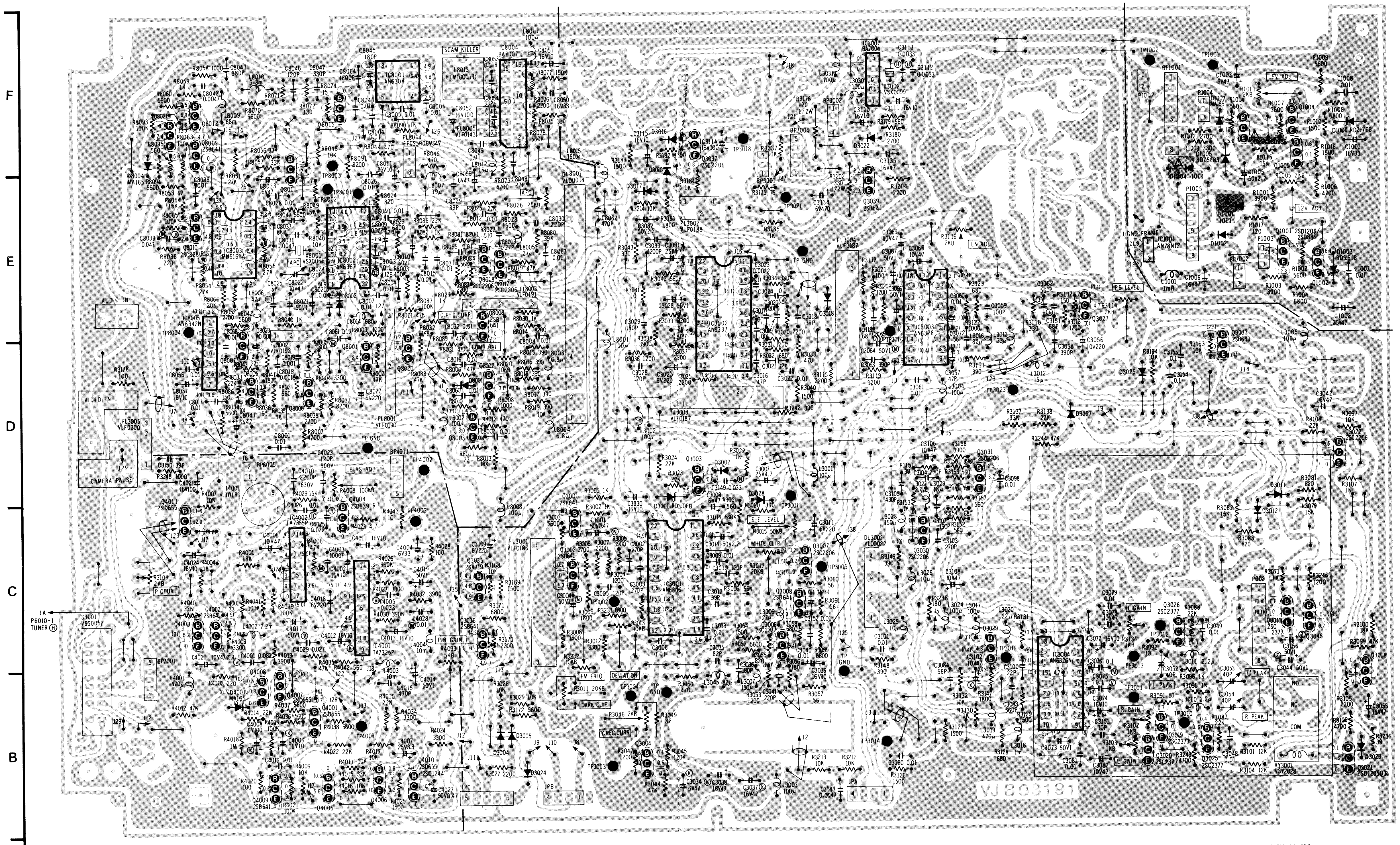

CHROMINANCE SECTION
LUMINANCE SECTION
POWER SUPPLY SECTION
AUDIO SECTION
L8013
SECAM KILLER
(EG only)
R8026
AFC
TP8003
TP8002
TP8001
C8024
APC
TP8004
R8032
C.REC. CURR
R8020
COMB BAL
TP GND
TP4002
R4008
BIAS ADJ
TP4003
R3109
PICTURE
TP3002
R3232
FM FREQ
R3013
DEVIATION
TP GND
TP4033
P.B. GAIN
R3011
DARK CLIP
R3046
Y.REC.CURR
TP3003
TP3018
TP3021
TP GND
R3116
LN ADJ
TP3017
TP3023
R3114
P.B.LEVEL
TP3001
R3015
E-E LEVEL
TP3005
R3017
WHITE CLIP
TP GND
TP3014
TP1002
TP1001
R1011
5V ADJ
R1005
12V ADJ
R3134
L GAIN
TP3012
C3052
L PEAK
TP3016
TP3013
C3053
L'PEAK
TP3011
C3054
R PEAK
TP3010
R3103
L'GAIN
R3102
R GAIN



Luminance,Chrominance,
Audio & Power Supply Board

LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY BOARD (VEP03191C: NV-600EG)

Luminance, Chrominance, Audio & Power Supply C.B.A.	
Q1001	E-8
Q1002	E-8
Q1003	F-8
Q1004	F-8
Q1005	F-8
Q3001	C-4
Q3002	C-4
Q3003	D-5
Q3004	B-4
Q3006	C-5
Q3007	C-5
Q3008	C-5
Q3011	C-8
Q3018	C-9
Q3019	B-7
Q3020	B-7
Q3021	B-9
Q3022	D-8
Q3025	B-7
Q3026	C-7
Q3027	D-7
Q3029	C-6
Q3030	C-6
Q3031	D-6
Q3033	D-8
Q3035	C-3
Q3036	C-3
Q3037	F-5
Q3039	E-6
Q3045	C-8
Q4001	B-2
Q4002	C-2
Q4003	C-2
Q4004	C-2
Q4005	B-2
Q4006	B-3
Q4007	B-2
Q4008	B-2
Q4009	B-2
Q4010	B-3
Q4011	C-2
Q8001	D-3
Q8002	D-3
Q8003	D-3
Q8005	D-2
Q8006	D-2
Q8007	D-2
Q8008	E-3
Q8009	F-2
Q8010	E-2
Q8011	F-2
Q8012	F-2
Q8015	F-3
Q8017	E-3
Q8018	E-3
Q8020	D-3
Q8021	F-1
IC1001	E-8
IC3001	C-4
IC3002	D-5
IC3003	D-6
IC3004	B-7
IC3007	F-6
IC4001	C-3
IC4002	C-2
IC8001	F-3
IC8002	E-3
IC8003	E-2
IC8004	F-4
IC8005	D-2


F
E
D
C
B
A
SCAM KILLER
AUDIO IN
VIDEO IN
CAMERA PAUSE
PICTURE
JA
P6010-1
TUNER Ⓗ
BIAS ADJ
5V ADJ
12V ADJ
LN ADJ
PB LEVEL
COMB BAL
E-E LEVEL
WHITE CLIP
FM FREQ
DEVIATION
DARK CLIP
Y.REC.CURR
L GAIN
R GAIN
L PEAK
R PEAK
P.B GAIN
TP GND
VJB03191

BP7001

1	AUDIO IN
2	GND
3	VIDEO IN
4	GND
5	P.B Ⓗ

BP6005

1	FE HEAD
2	GND

BP4011

1	AE HEAD
2	AE GND
3	GND (AUDIO HEAD)
4	AUDIO HEAD (R)
5	AUDIO HEAD (W)

JPA

1	H. SW PULSE
2	DOC OUT
3	DUMMY V
4	VSS

JPC

1	SEARCH Ⓛ
2	DELAYD REC 12V
3	REC 12V
4	AUDIO MUTING
5	CAMERA PAUSE

JPB

1	EXCEPT REC 12V
2	EXCEPT REC Ⓛ
3	REF 50Hz
4	E-E Ⓛ

P002

1	L CH (F)
2	L CH (S)
3	GND
4	GND
5	L' CH (S)
6	L' CH (F)
7	R CH (F)
8	R CH (S)

BP3001 LINE OUT

1	VIDEO OUT
2	GND
3	AUDIO OUT

BP7004 RF CONV.

1	+9V
2	GND
3	VIDEO OUT
4	GND
5	AUDIO OUT

P1002

1	GND
2	GND

BP3002

1	+12V
2	TEST SIGNAL Ⓗ
3	COLOUR Ⓗ
4	GND

BP1004

1	Ⓑ
2	Ⓒ
3	Ⓔ

BP1001

1	POWER OFF Ⓗ
2	UNREG 24V
3	UNREG 8V
4	GND
5	GND
6	UNREG 18V
7	MOTOR GND
8	REG 6V

P1005 TO SYSTEM CONTROL

1	REG 12V Ⓑ
2	REG 5V
3	MOTOR GND
4	UNREG 24V
5	POWER OFF Ⓗ
6	POWER OFF Ⓛ
7	UNREG 18V
8	GND

P1003

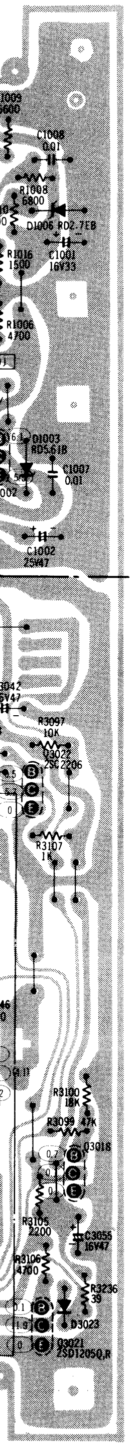
1	Ⓑ
2	Ⓒ
3	Ⓔ

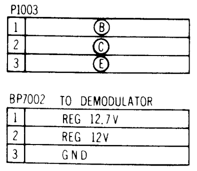
BP7002 TO DEMODULATOR

1	REG 12.7V
2	REG 12V
3	GND

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165.
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636 (NPN TYPE).

1 2 3 4 5 6 7 8 9

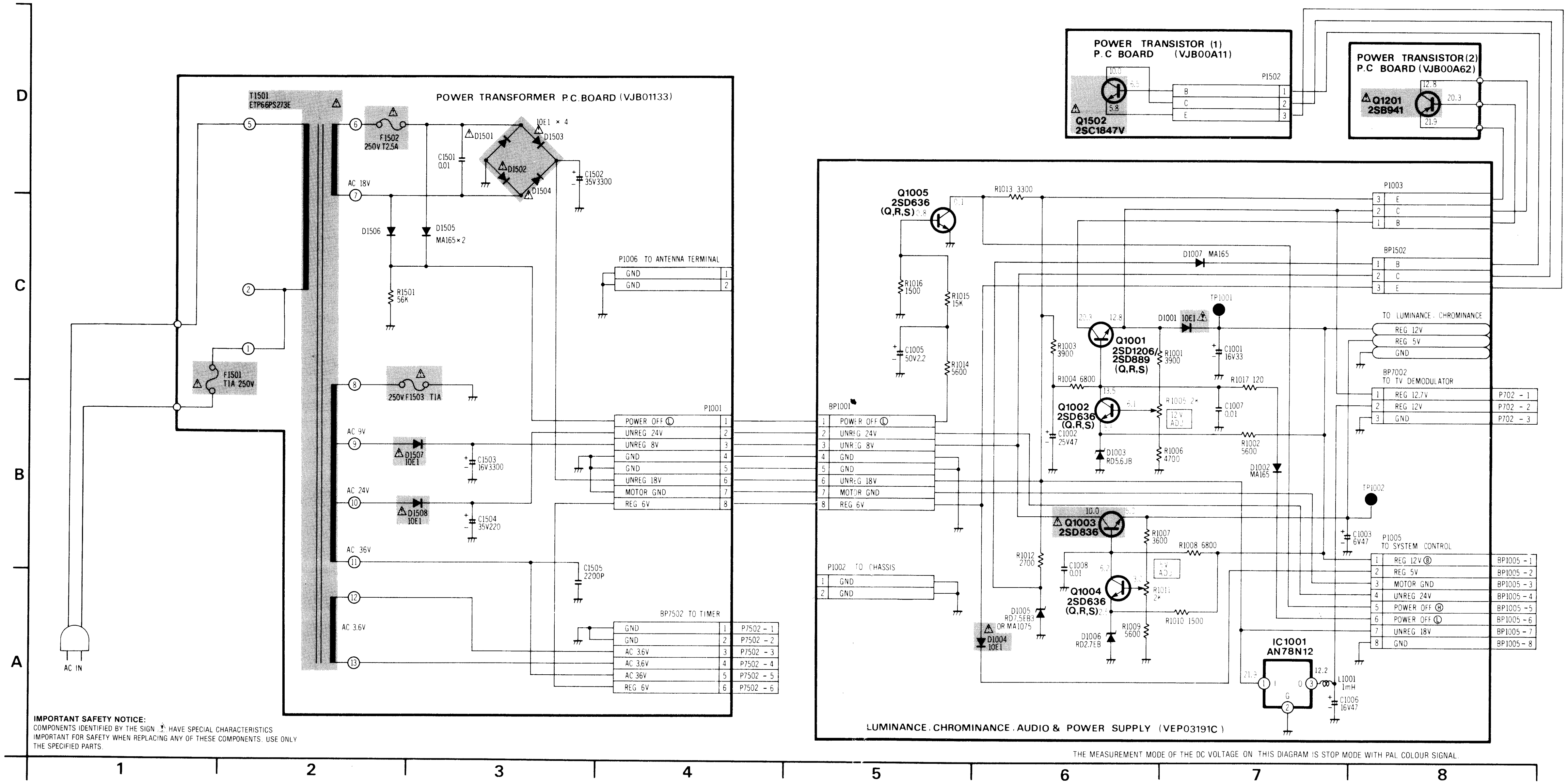



P1003
1 B
2 C
3 E
BP7002 TO DEMODULATOR
1 REG 12.7V
2 REG 12V
3 GND

ERWISE SPECIFIED. ALL DIODES ARE MA165
ERWISE SPECIFIED. ALL Tr's ARE 2SD636 (NPN TYPE)

POWER TRANSFORMER & POWER SUPPLY SCHEMATIC DIAGRAM

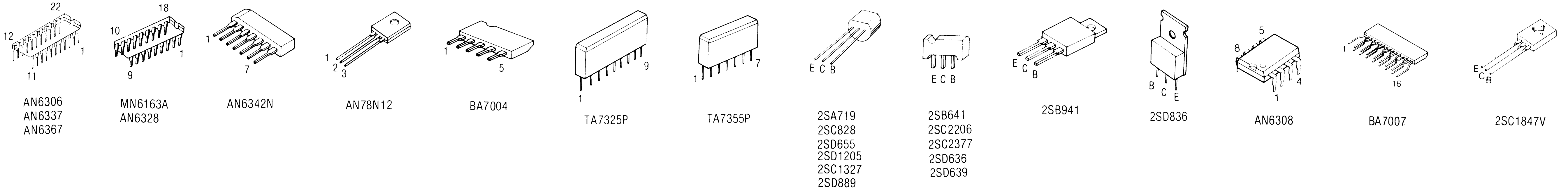
Power Supply Circuit	
Q1001	C-6
Q1002	B-6
Q1003	B-6
Q1004	A-6
Q1005	C-5
IC1001	A-7


POWER TRANSFORMER P.C.BOARD (VJB01133)
T1501 ETP66PS273E
F1502 250V T2.5A
D1501
D1502
D1503
D1504
10E1 × 4
C1501 0.01
C1502 35V3300
AC 18V
D1506
D1505 MA165×2
R1501 56K
F1501 T1A 250V
250V F1503 T1A
AC 9V
D1507 10E1
C1503 16V3300
AC 24V
D1508 10E1
C1504 35V220
AC 36V
C1505 2200P
AC 3.6V
AC IN
P1006 TO ANTENNA TERMINAL
GND
GND
P1001
POWER OFF Ⓛ
UNREG 24V
UNREG 8V
GND
GND
UNREG 18V
MOTOR GND
REG 6V
BP7502 TO TIMER
GND
GND
AC 3.6V
AC 3.6V
AC 36V
REG 6V
P7502 - 1
P7502 - 2
P7502 - 3
P7502 - 4
P7502 - 5
P7502 - 6
POWER TRANSISTOR (1) P.C BOARD (VJB00A11)
Q1502 2SC1847V
P1502
B
C
E
POWER TRANSISTOR (2) P.C BOARD (VJB00A62)
Q1201 2SB941
12.8
20.3
21.9
LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY (VEP03191C)
Q1005 2SD636 (Q,R,S)
R1013 3300
P1003
E
C
B
BP1502
B
C
E
D1007 MA165
R1016 1500
R1015 15K
C1005 50V2.2
R1014 5600
R1003 3900
Q1001 2SD1206/2SD889 (Q,R,S)
R1001 3900
D1001 10E1
TP1001
C1001 16V33
TO LUMINANCE, CHROMINANCE
REG 12V
REG 5V
GND
BP7002 TO TV DEMODULATOR
REG 12.7V
REG 12V
GND
P702 - 1
P702 - 2
P702 - 3
R1004 6800
R1017 120
Q1002 2SD636 (Q,R,S)
R1005 2k
12V ADJ
C1007 0.01
C1002 25V47
D1003 RD5.6JB
R1006 4700
R1002 5600
D1002 MA165
BP1001
POWER OFF Ⓛ
UNREG 24V
UNREG 8V
GND
GND
UNREG 18V
MOTOR GND
REG 6V
TP1002
Q1003 2SD836
R1007 3600
R1008 6800
C1003 6V47
P1005 TO SYSTEM CONTROL
REG 12V Ⓑ
REG 5V
MOTOR GND
UNREG 24V
POWER OFF Ⓗ
POWER OFF Ⓛ
UNREG 18V
GND
BP1005 - 1
BP1005 - 2
BP1005 - 3
BP1005 - 4
BP1005 - 5
BP1005 - 6
BP1005 - 7
BP1005 - 8
P1002 TO CHASSIS
GND
GND
R1012 2700
C1008 0.01
Q1004 2SD636 (Q,R,S)
R1011 2k
5V ADJ
D1005 RD7.5EB3 OR MA1075
D1004 10E1
R1009 5600
R1010 1500
D1006 RD2.7EB
IC1001 AN78N12
L1001 1mH
C1006 16V47
A
B
C
D
1
2
3
4
5
6
7
8

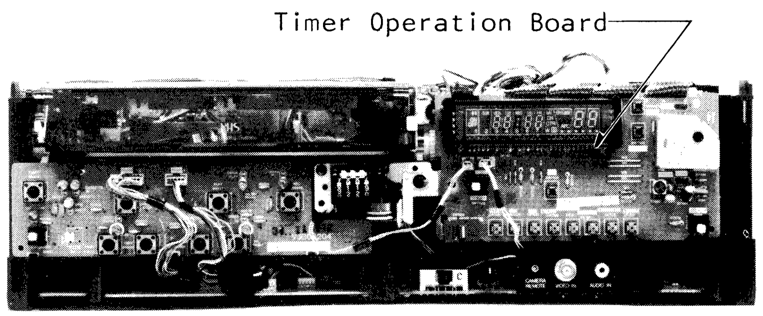
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

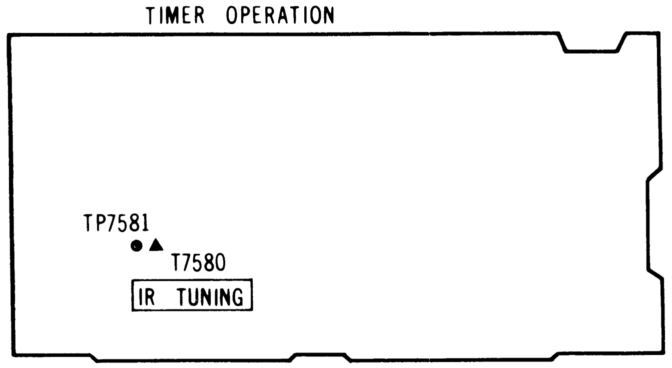
THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY BOARD ICs & TRANSISTORs INFORMATION


22
12
1
11
AN6306
AN6337
AN6367
18
10
1
9
MN6163A
AN6328
1
7
AN6342N
1
2
3
AN78N12
1
5
BA7004
9
1
TA7325P
7
1
TA7355P
E C B
2SA719
2SC828
2SD655
2SD1205
2SC1327
2SD889
E C B
2SB641
2SC2206
2SC2377
2SD636
2SD639
E C B
2SB941
B C E
2SD836
5
8
4
1
AN6308
1
16
BA7007
E C B
2SC1847V

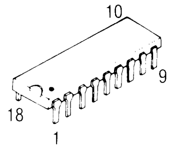
TIMER OPERATION BOARD (VEP07178A)


Timer Operation Board

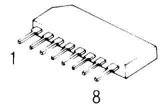

TIMER OPERATION
TP7581
T7580
IR TUNING

Timer Operation C.B.A.	
Q7580	A-1
Q7581	B-1
IC7502	B-3
IC7580	B-1

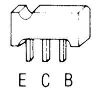
TIMER OPERATION BOARD ICs & TRANSISTORs INFORMATION



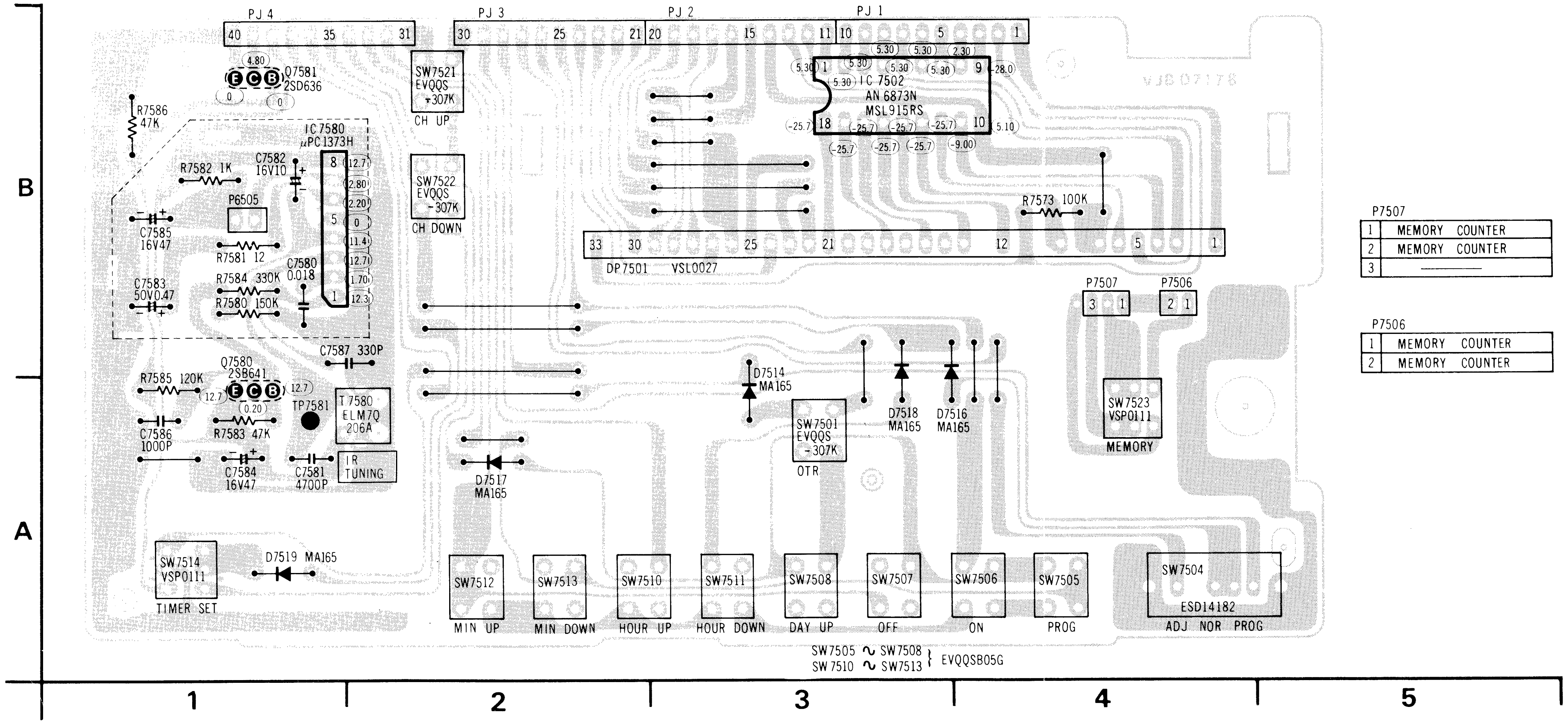
AN6873N



μPC1373H



2SB641
2SD636


PJ 4
PJ 3
PJ 2
PJ 1
Q7581
2SD636
R7586
47K
IC7580
μPC1373H
R7582 1K
C7582
16V10
P6505
C7585
16V47
R7581 12
C7583
50V0.47
R7584 330K
R7580 150K
C7580
0.018
C7587 330P
R7585 120K
Q7580
2SB641
TP7581
T7580
ELM7Q
206A
C7586
1000P
R7583 47K
C7584
16V47
C7581
4700P
IR
TUNING
SW7521
EVQQS
307K
CH UP
SW7522
EVQQS
307K
CH DOWN
IC 7502
AN 6873N
MSL915RS
R7573 100K
DP7501 VSL0027
P7507
P7506
D7514
MA165
D7518
MA165
D7516
MA165
SW7501
EVQQS
307K
OTR
SW7523
VSP0111
MEMORY
D7517
MA165
SW7514
VSP0111
TIMER SET
D7519 MA165
SW7512
MIN UP
SW7513
MIN DOWN
SW7510
HOUR UP
SW7511
HOUR DOWN
SW7508
DAY UP
SW7507
OFF
SW7506
ON
SW7505
PROG
SW7504
ESD14182
ADJ NOR PROG
SW7505 ∿ SW7508
SW7510 ∿ SW7513
EVQQSB05G
VJB07178
A
B
1
2
3
4
5

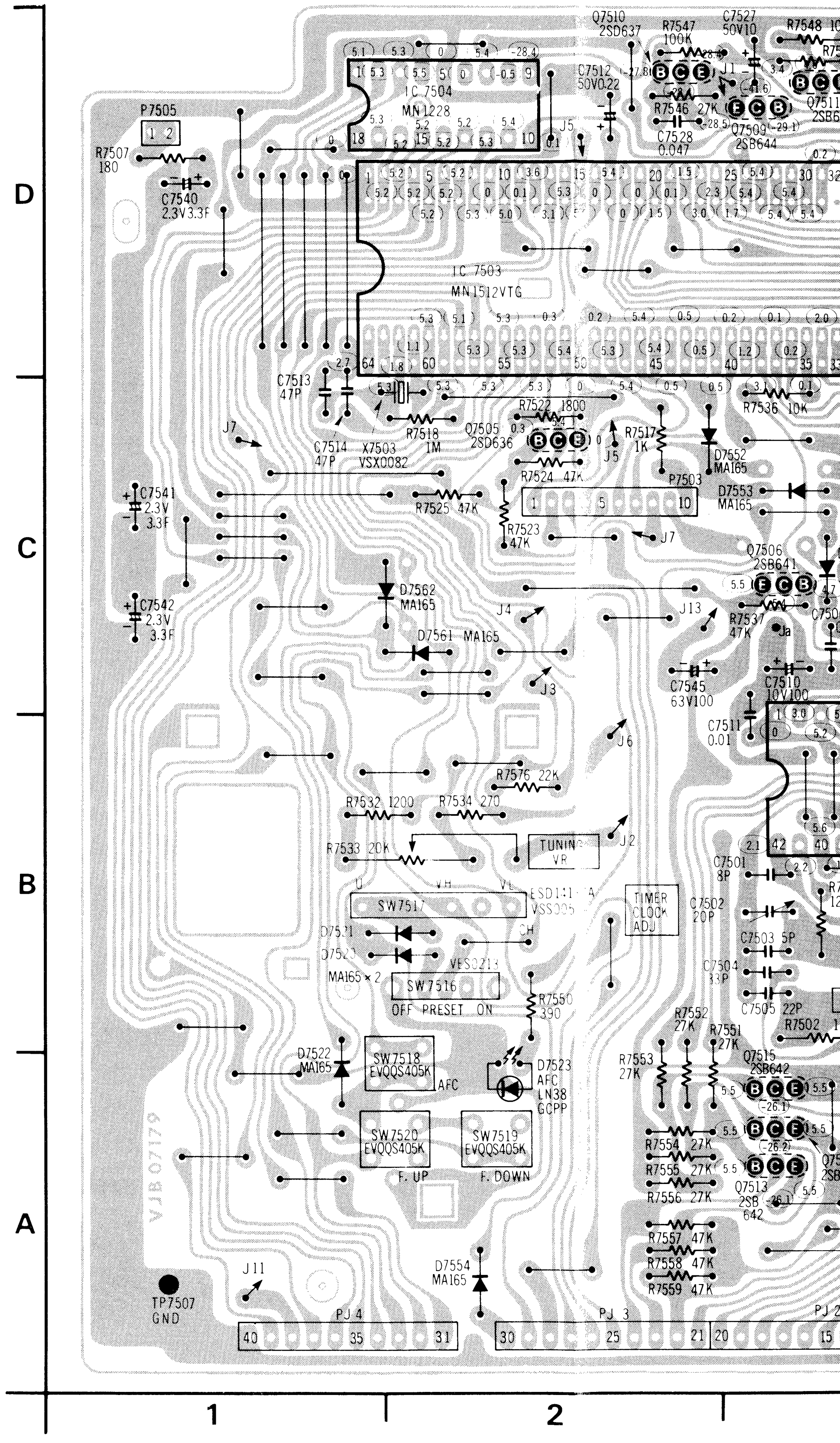
P7507

1	MEMORY COUNTER
2	MEMORY COUNTER
3	————

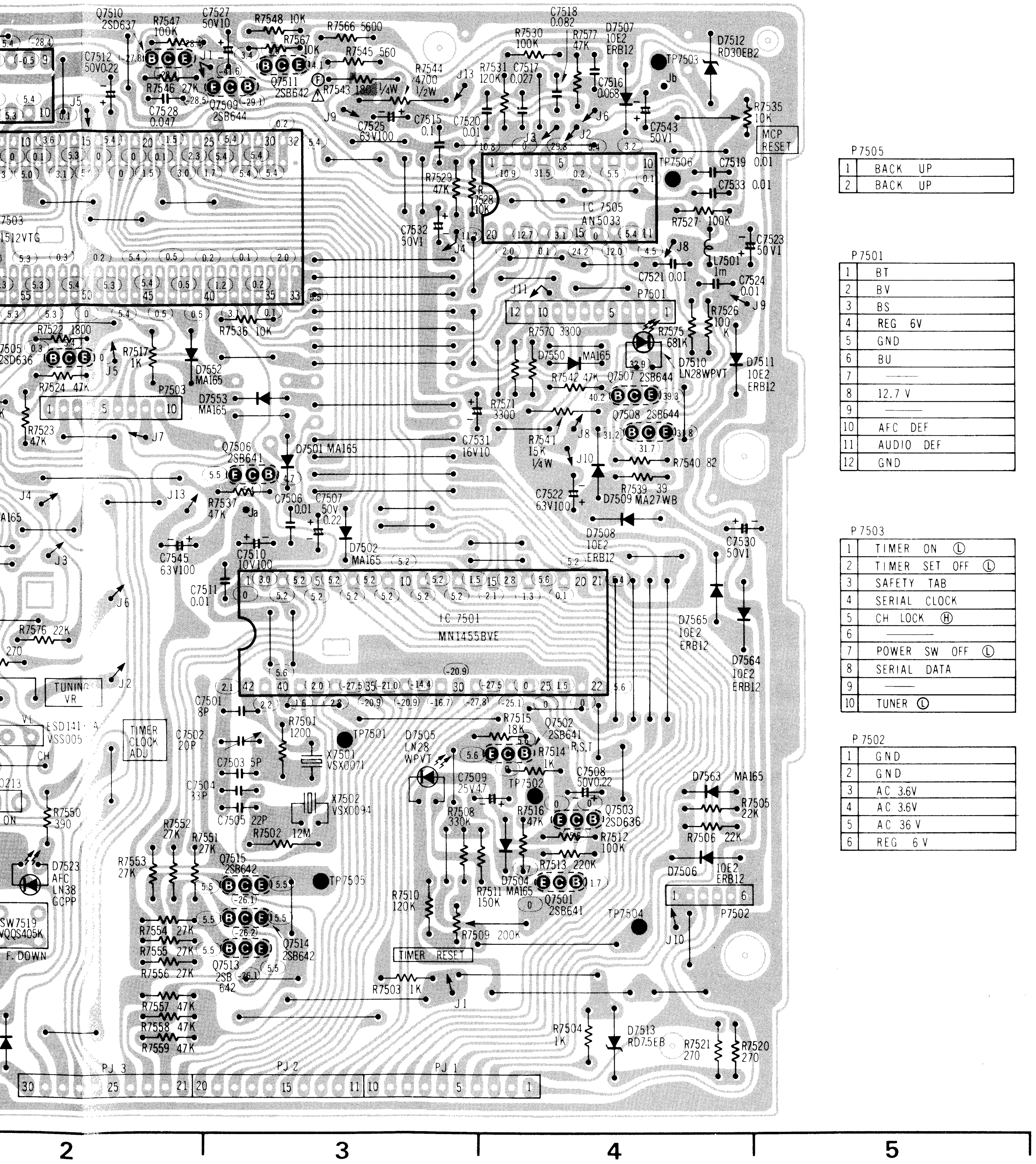
P7506

1	MEMORY COUNTER
2	MEMORY COUNTER

TIMER DECODER BOARD (VEP07179C: N


Q7510
2SD637
R7547
100K
C7527
50V10
R7548
IC 7504
MN1228
C7512
50V0.22
R7546 27K
Q7509
2SB644
C7528
0.047
P7505
R7507
180
C7540
2.3V3.3F
IC 7503
MN1512VTG
C7513
47P
C7514
47P
X7503
VSX0082
R7518
1M
Q7505
2SD636
R7522 1800
R7536 10K
R7517
1K
R7524 47K
D7552
MA165
P7503
D7553
MA165
C7541
2.3V
3.3F
R7525 47K
R7523
47K
Q7506
2SB641
D7562
MA165
D7561 MA165
C7542
2.3V
3.3F
R7537
47K
C7545
63V100
C7510
10V100
C7511
0.01
R7575 22K
R7532 1200
R7534 270
R7533 20K
TUNING
VR
C7501
8P
SW7517
ESD14182
VSS205
TIMER
CLOCK
ADJ
C7502
20P
C7503 5P
C7504
33P
C7505 22P
SW7516
OFF PRESET ON
R7550
390
MA165 × 2
D7522
MA165
SW7518
EVQQS405K
AFC
D7523
AFC
LN38
GOPP
R7552
27K
R7551
27K
R7553
27K
Q7515
2SB642
R7502
SW7520
EVQQS405K
F. UP
SW7519
EVQQS405K
F. DOWN
R7554 27K
R7555 27K
R7556 27K
Q7513
2SB642
R7557 47K
R7558 47K
R7559 47K
D7554
MA165
TP7507
GND
PJ 4
PJ 3
VJB07179
J1
J2
J3
J4
J5
J6
J7
J11
J13
A
B
C
D
1
2

RD (VEP07179C: NV-600EO)


Q7510 2SD637
R7547 100K
C7527 50V10
R7548 10K
R7566 5600
R7567 10K
R7545 560
C7512 50V0.22
R7546 27K
C7528 0.047
Q7509 2SB644
Q7511 2SB642
R7543 180 1/4W
R7544 4700 1/2W
C7525 63V100
C7515 0.1
C7520 0.01
R7530 100K
R7531 120K
C7517 0.027
C7518 0.082
R7577 47K
D7507 10E2 ERB12
C7516 0.068
D7512 RD30EB2
TP7503
R7535 10K
MCP RESET
C7543 50V1
TP7506
C7519 0.01
C7533 0.01
IC 7505 AN5033
R7529 47K
R7528 10K
C7532 50V1
R7527 100K
C7523 50V1
L7501 1m
C7521 0.01
C7524 0.01
P7501
R7526 100K
R7536 10K
R7570 3300
D7550
MA165
R7575 681K
D7510 LN28WPVT
D7511 10E2 ERB12
R7542 47K
Q7507 2SB644
R7571 3300
Q7508 2SB644
R7522 1800
Q7505 2SD636
R7517 1K
D7552 MA165
R7524 47K
P7503
D7553 MA165
R7523 47K
R7541 15K 1/4W
C7531 16V10
Q7506 2SB641
D7501 MA165
R7540 82
R7539 39
C7522 63V100
D7509 MA27WB
R7537 47K
C7506 0.01
C7507 50V 0.22
D7502 MA165
D7508 10E2 ERB12
C7530 50V1
C7545 63V100
C7510 10V100
C7511 0.01
IC 7501
MN1455BVE
D7565 10E2 ERB12
D7564 10E2 ERB12
R7575 22K
TUNING VR
C7501 8P
R7501 1200
TP7501
D7505 LN28 WPVT
R7515 18K
Q7502 2SB641
R7514 1K
TIMER CLOCK ADJ
C7502 20P
X7501 VSX0071
C7509 25V47
TP7502
C7508 50V0.22
D7563 MA165
C7503 5P
C7504 33P
X7502 VSX0094
R7508 330K
R7516 47K
Q7503 2SD636
R7505 22K
C7505 22P
R7502 12M
R7512 100K
R7506 22K
R7552 27K
R7551 27K
R7553 27K
Q7515 2SB642
D7523 AFC LN38 GCPP
TP7505
R7513 220K
D7504 MA165
Q7501 2SB641
D7506 10E2 ERB12
R7510 120K
R7511 150K
TP7504
P7502
R7554 27K
R7555 27K
Q7514 2SB642
Q7513 2SB642
R7509 200K
TIMER RESET
J10
R7556 27K
R7503 1K
J1
R7557 47K
R7558 47K
R7559 47K
R7504 1K
D7513 RD7.5EB
R7521 270
R7520 270
R7550 390
SW7519 VQQS405K
F. DOWN
PJ 3
PJ 2
PJ 1
2
3
4
5

P7505

1	BACK UP
2	BACK UP

P7501

1	BT
2	BV
3	BS
4	REG 6V
5	GND
6	BU
7	———
8	12.7 V
9	———
10	AFC DEF
11	AUDIO DEF
12	GND

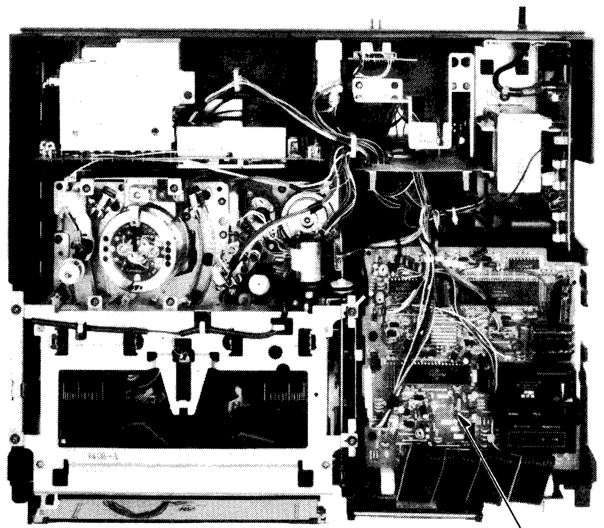
P7503

1	TIMER ON Ⓛ
2	TIMER SET OFF Ⓛ
3	SAFETY TAB
4	SERIAL CLOCK
5	CH LOCK Ⓗ
6	———
7	POWER SW OFF Ⓛ
8	SERIAL DATA
9	———
10	TUNER Ⓛ

P7502

1	GND
2	GND
3	AC 3.6V
4	AC 3.6V
5	AC 36 V
6	REG 6 V

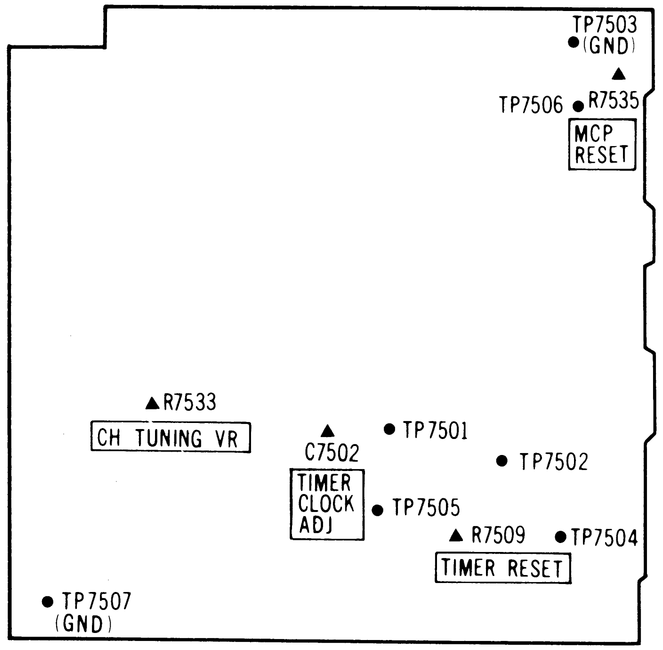
Timer Decoder C.B.A.	
Q7501	A-4
Q7502	B-4
Q7503	B-4
Q7505	C-2
Q7506	C-3
Q7507	C-4
Q7508	C-4
Q7509	D-3
Q7510	D-2
Q7511	D-3
Q7513	A-3
Q7514	A-3
Q7515	A-3
IC7501	B-3
IC7503	D-2
IC7504	D-2
IC7505	D-4


Timer Decoder Board

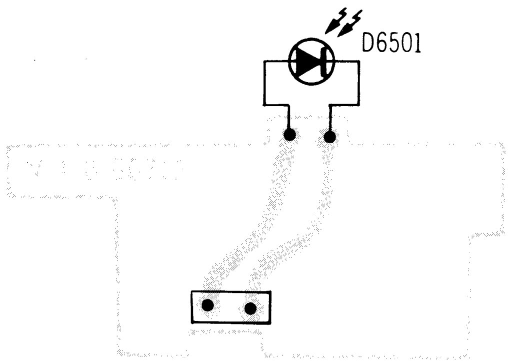
Timer Operation Schematic	
Q7580	H-6
Q7581	G-5
IC7502	F-1
IC7580	G-7

Timer Decoder Schematic	
Q7501	B-1
Q7502	A-1
Q7503	A-2
Q7505	C-7
Q7506	F-10
Q7507	E-10
Q7508	D-10
Q7509	E-11
Q7510	E-10
Q7511	E-10
Q7513	D-3
Q7514	D-3
Q7515	E-3
IC7501	C-4
IC7503	D-7
IC7504	E-9
IC7505	B-10

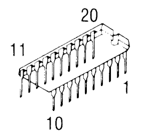
TIMER DECODER


TP7503
(GND)
TP7506
R7535
MCP RESET
R7533
CH TUNING VR
C7502
TIMER CLOCK ADJ
TP7501
TP7502
TP7505
R7509
TP7504
TIMER RESET
TP7507
(GND)

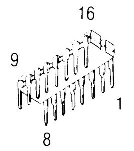
IR REMOTE CONTROL RECEIVER P.C.B. (VJB00712)



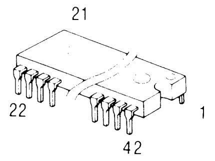
TIMER DECODER BOARD ICs & TRANSISTORs INFORMATION



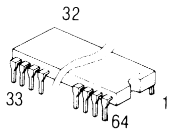
AN5033



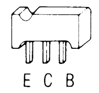
MN1228



MN1455BVE



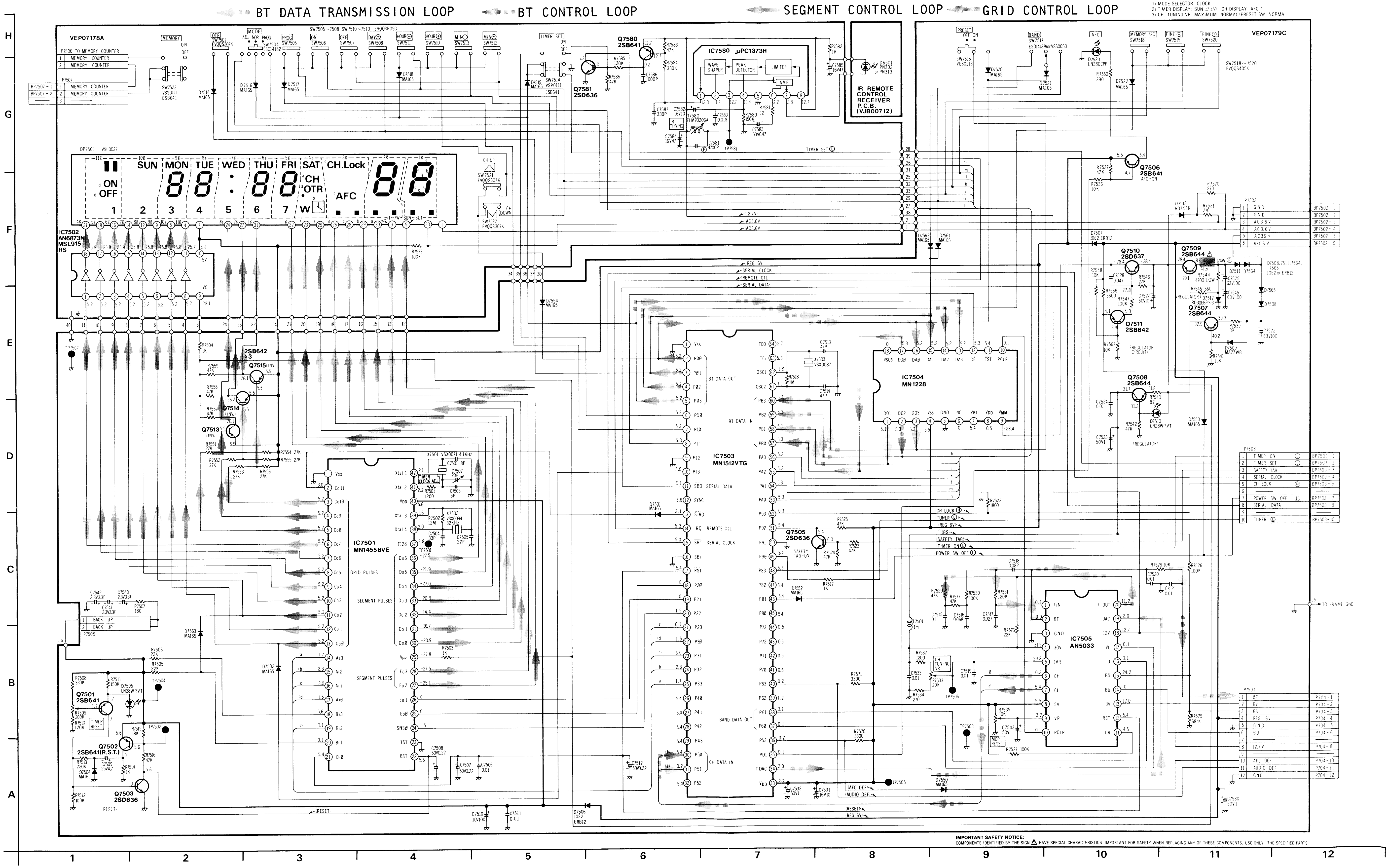
MN1512VTG



2SB641
2SB642
2SB644
2SD636
2SD637

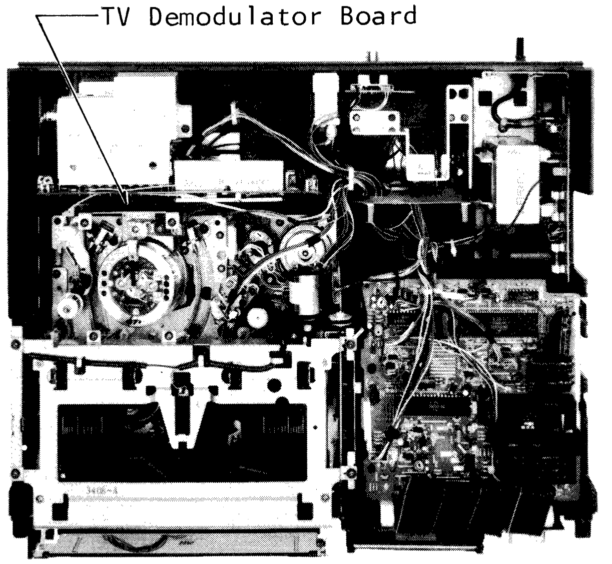
TIMER OPERATION & TIMER DECODER SCHEMATIC DIAGRAM (NV-600EO)

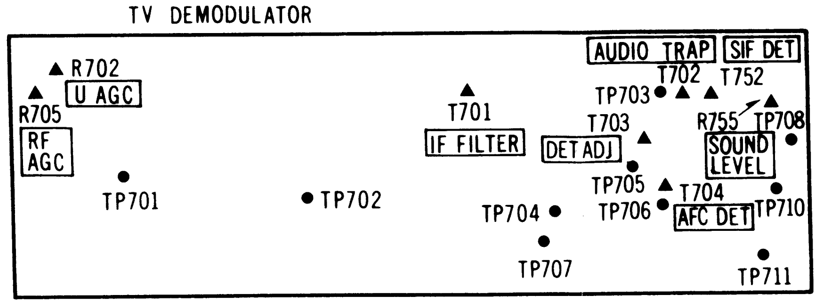
NOTE THE MEASUREMENT MODES OF THE DC VOLTAGE ON THIS DIAGRAM ARE FOLLOWING CONDITIONS.
1) MODE SELECTOR: CLOCK
2) TIMER DISPLAY: SUN 0:00, CH DISPLAY. AFC 1
3) CH. TUNING VR. MAXIMUM, NORMAL/PRESET SW NORMAL


BT DATA TRANSMISSION LOOP
BT CONTROL LOOP
SEGMENT CONTROL LOOP
GRID CONTROL LOOP
VEP07178A
VEP07179C
IC7502 AN6873N MSL915 RS
IC7580 μPC1373H
IR REMOTE CONTROL RECEIVER P.C.B. (VJB00712)
IC7501 MN1455BVE
IC7503 MN1512VTG
IC7504 MN1228
IC7505 AN5033
Q7580 2SB641
Q7581 2SD636
Q7506 2SB641
Q7510 2SD637
Q7509 2SB644
Q7507 2SB644
Q7511 2SB642
Q7508 2SB644
Q7515 2SB642 ×3
Q7514
Q7513
Q7505 2SD636
Q7501 2SB641
Q7502 2SB641(R.S.T.)
Q7503 2SD636
DP7501 VSL0027
SUN MON TUE WED THU FRI SAT CH.Lock
ON OFF CH OTR AFC
P7502
P7503
P7501
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS

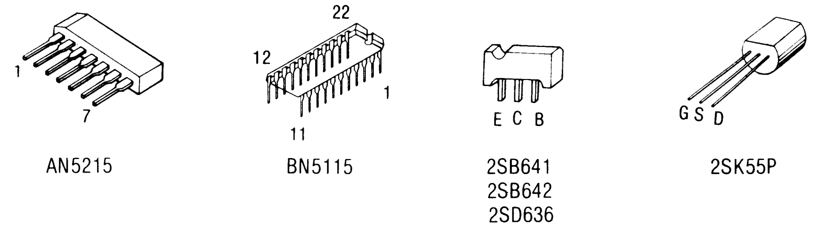
TV DEMODULATOR BOARD (VEP07177F: NV-600EO)

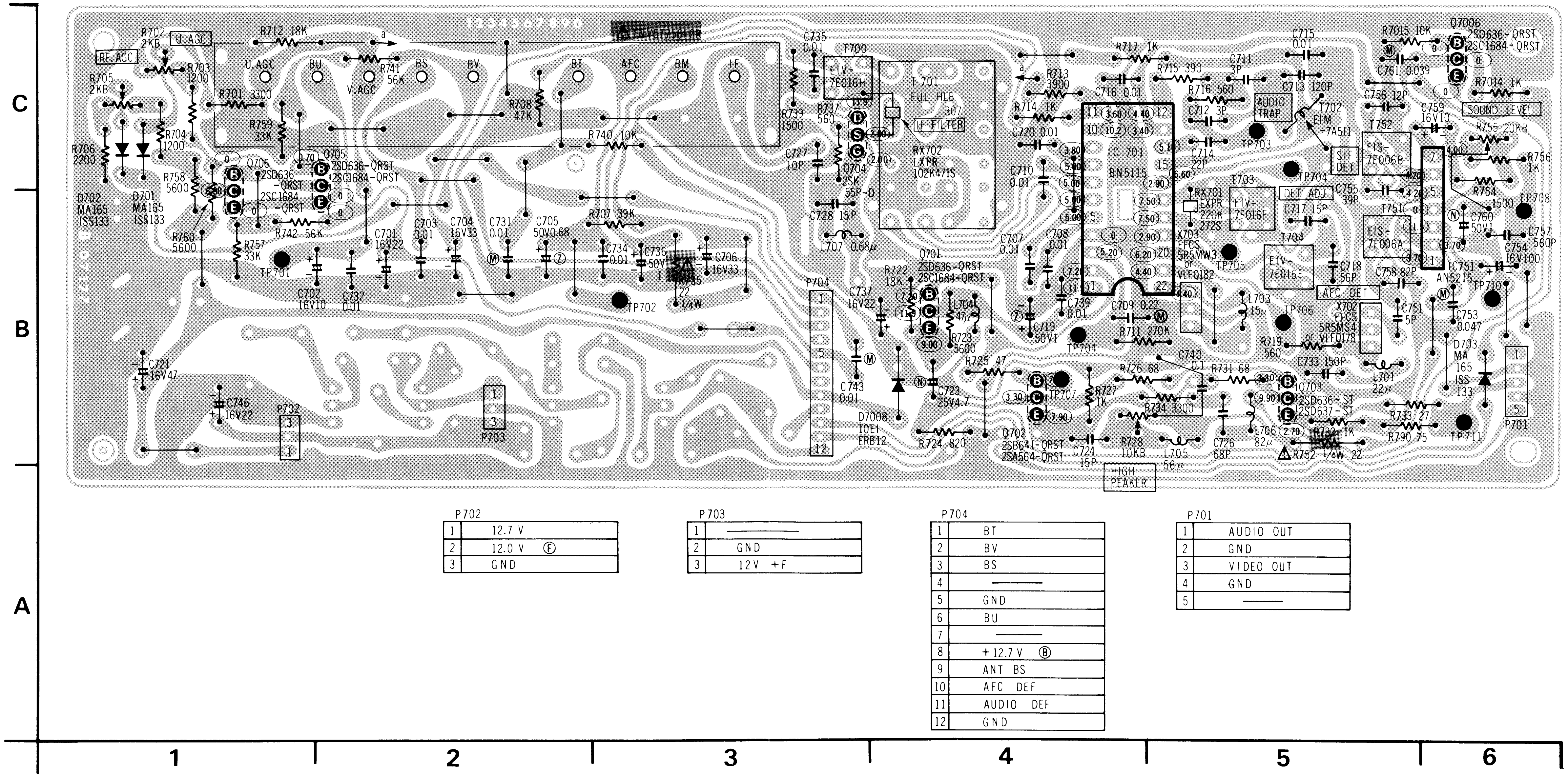

TV Demodulator Board


TV DEMODULATOR
R702
R705
U AGC
RF AGC
TP701
TP702
T701
IF FILTER
DET ADJ
T703
TP703
T702
AUDIO TRAP
SIF DET
T752
R755
TP708
SOUND LEVEL
TP705
T704
TP706
AFC DET
TP710
TP704
TP707
TP711

TV Demodulator C.B.A.	
Q701	B-4
Q702	B-4
Q703	B-5
Q704	C-3
Q705	C-2
Q706	C-1
Q707	B-3
Q7006	C-6
IC701	C-4
IC751	B-5

TV DEMODULATOR BOARD ICs & TRANSISTORs INFORMATION


1
7
AN5215
22
12
1
11
BN5115
E C B
2SB641
2SB642
2SD636
G S D
2SK55P


C
B
A
1
2
3
4
5
6
R702 2KB
U.AGC
RF.AGC
R705 2KB
R703 1200
R712 18K
R741 56K
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
R701 3300
R708 47K
R759 33K
R704 1200
R706 2200
D702 MA165 ISS133
D701 MA165 ISS133
R758 5600
Q706 2SD636-QRST 2SC1684-QRST
Q705 2SD636-QRST 2SC1684-QRST
R742 56K
R760 5600
R757 33K
TP701
C702 16V10
C732 0.01
C701 16V22
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
R740 10K
R707 39K
C734 0.01
C736 50V
R735 22 1/4W
C706 16V33
TP702
C721 16V47
C746 16V22
P702
P703
TNV57756F2R
C735 0.01
T700 EIV-7E016H
R739 1500
R737 560
Q704 2SK 55P-D
C727 10P
C728 15P
L707 0.68μ
T701 EUL HLB 307 IF FILTER
RX702 EXPR 102K471S
P704
Q701 2SD636-QRST 2SC1684-QRST
R722 18K
C737 16V22
L704 47μ
R723 5600
C743 0.01
D7008 10E1 ERB12
C723 25V4.7
R725 47
R724 820
Q702 2SB641-QRST 2SA564-QRST
R713 3900
R714 1K
C716 0.01
C720 0.01
C710 0.01
IC701 BN5115
C707 0.01
C708 0.01
C739 0.01
C719 50V1
TP704
R717 1K
R715 390
C711 3P
R716 560
C712 3P
C713 120P
C715 0.01
AUDIO TRAP
T702 EIM -7A511
TP703
C714 22P
SIF DET
RX701 EXPR 220K 272S
X703 EFCS 5R5MW3 or VLF0182
T703 EIV-7E016F
DET ADJ
C717 15P
TP705
T704 EIV-7E016E
C709 0.22
R711 270K
C740 0.1
R726 68
R731 68
R727 1K
R734 3300
TP707
Q703 2SD636-ST 2SD637-ST
R728 10KB
L705 56μ
C726 68P
L706 82μ
R732 1K
R752 1/4W 22
C724 15P
HIGH PEAKER
TP706
L703 15μ
R719 560
X702 EFCS 5R5MS4 or VLF0178
C733 150P
L701 22μ
R7015 10K
Q7006 2SD636-QRST 2SC1684-QRST
C761 0.039
R7014 1K
C756 12P
C759 16V10
SOUND LEVEL
T752 EIS-7E006B
R755 20KB
R756 1K
C755 39P
R754 1500
TP708
T751 EIS-7E006A
C760 50V1
C757 560P
C754 16V100
IC751 AN5215
C718 56P
AFC DET
C758 82P
C751 5P
C753 0.047
TP710
D703 MA165 ISS133
R733 27
R790 75
TP711
P701

P702	
1	12.7 V
2	12.0 V Ⓕ
3	GND

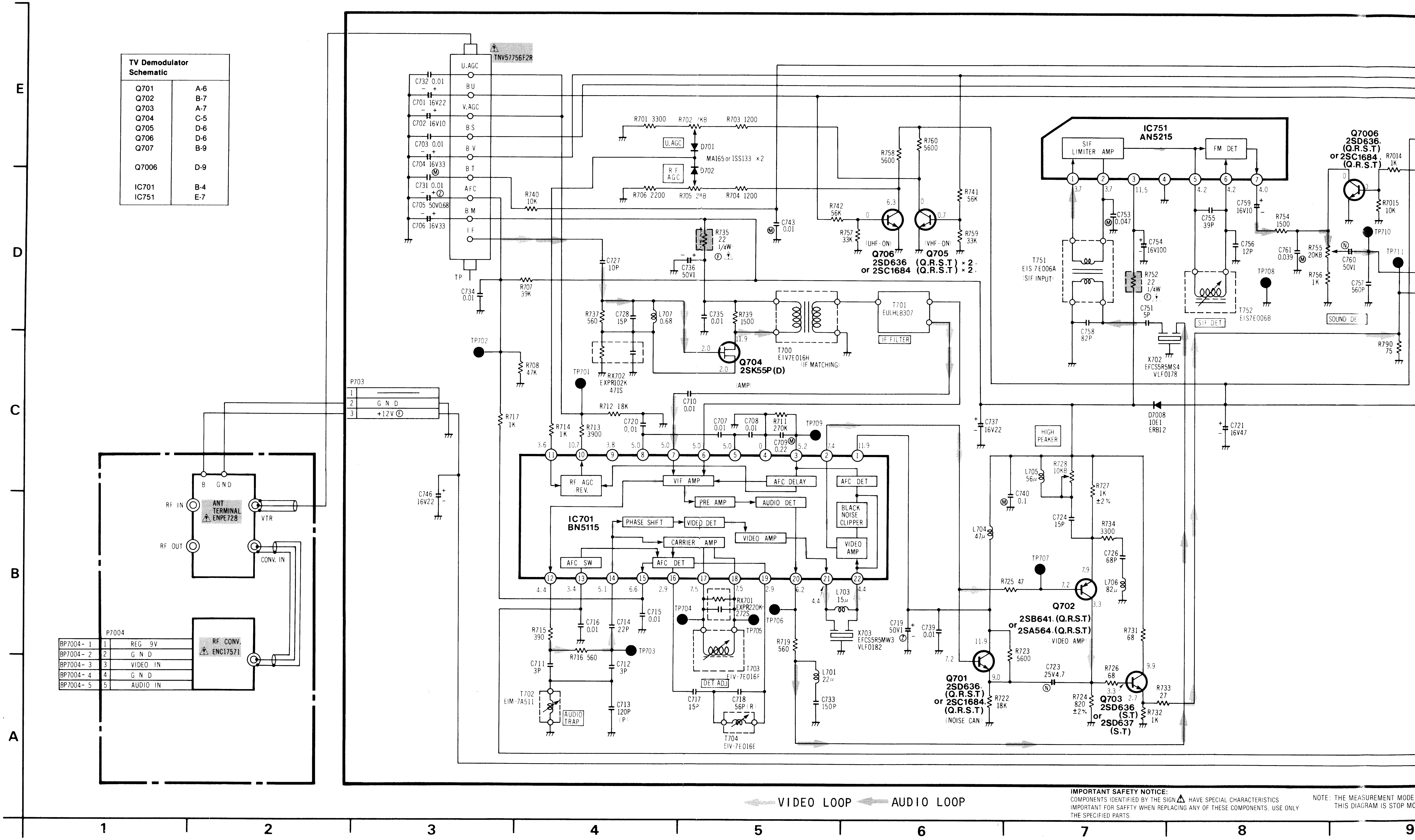
P703	
1	———
2	GND
3	12V +F

P704	
1	BT
2	BV
3	BS
4	———
5	GND
6	BU
7	———
8	+12.7 V Ⓑ
9	ANT BS
10	AFC DEF
11	AUDIO DEF
12	GND

P701	
1	AUDIO OUT
2	GND
3	VIDEO OUT
4	GND
5	———

TV DEMODULATOR SCHEMATIC DIAGRAM (NV-600EO)

TV Demodulator Schematic	
Q701	A-6
Q702	B-7
Q703	A-7
Q704	C-5
Q705	D-6
Q706	D-6
Q707	B-9
Q7006	D-9
IC701	B-4
IC751	E-7



E
D
C
B
A
1
2
3
4
5
6
7
8
9
TNV57756F2R
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
TP
C732 0.01
C701 16V22
C702 16V10
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
C734 0.01
R740 10K
R707 39K
R708 47K
R717 1K
TP702
TP701
R701 3300
R702 2KB
R703 1200
U.AGC
D701
MA165 or 1SS133 ×2
RF AGC
D702
R706 2200
R705 2KB
R704 1200
R735 22 1/4W
C736 50V1
C727 10P
R737 560
C728 15P
L707 0.68
C735 0.01
R739 1500
RX702 EXPR102K 471S
Q704 2SK55P(D)
(AMP)
T700 EIV7E016H (IF MATCHING)
T701 EULHL8307
IF FILTER
C743 0.01
R758 5600
R760 5600
R742 56K
R757 33K
R741 56K
R759 33K
(UHF-ON)
(VHF-ON)
Q706 2SD636 (Q.R.S.T) ×2
Q705 or 2SC1684 (Q.R.S.T) ×2
IC751 AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C754 16V100
C755 39P
C756 12P
C759 16V10
T751 EIS7E006A (SIF INPUT)
R752 22 1/4W
C751 5P
C758 82P
X702 EFCS5R5MS4 VLF0178
SIF DET
T752 EIS7E006B
TP708
Q7006 2SD636 (Q.R.S.T) or 2SC1684 (Q.R.S.T)
R7014 1K
R7015 10K
TP710
TP711
R754 1500
C761 0.039
R755 20KB
R756 1K
C760 50V1
C757 560P
SOUND DE
R790 75
P703
GND
+12V
R712 18K
C710 0.01
C720 0.01
R714 1K
R713 3900
C707 0.01
C708 0.01
R711 270K
C709 0.22
TP709
C737 16V22
D7008 10E1 ERB12
C721 16V47
IC701 BN5115
RF AGC (REV.)
VIF AMP
AFC DELAY
AFC DET
PRE AMP
AUDIO DET
BLACK NOISE CLIPPER
PHASE SHIFT
VIDEO DET
VIDEO AMP
CARRIER AMP
AFC SW
AFC DET
VIDEO AMP
C746 16V22
B GND
RF IN
ANT TERMINAL ENPE728
VTR
RF OUT
CONV. IN
P7004
BP7004-1 REG 9V
BP7004-2 GND
BP7004-3 VIDEO IN
BP7004-4 GND
BP7004-5 AUDIO IN
RF CONV. ENC17571
R715 390
C716 0.01
C714 22P
C715 0.01
R716 560
TP703
C711 3P
C712 3P
T702 EIM-7A511
AUDIO TRAP
C713 120P (P)
TP704
RX701 EXPR220K 272S
TP705
TP706
T703 EIV-7E016F
DET ADJ
C717 15P
C718 56P(R)
T704 EIV-7E016E
L703 15μ
X703 EFCS5R5MW3 VLF0182
R719 560
L701 22μ
C733 150P
C719 50V1
C739 0.01
HIGH PEAKER
L705 56μ
R728 10KB
C740 0.1
R727 1K ±2%
L704 47μ
C724 15P
R734 3300
C726 68P
TP707
R725 47
L706 82μ
Q702 2SB641 (Q.R.S.T) or 2SA564 (Q.R.S.T) VIDEO AMP
R731 68
Q701 2SD636 (Q.R.S.T) or 2SC1684 (Q.R.S.T) (NOISE CAN)
R723 5600
R722 18K
C723 25V4.7
R726 68
R724 820 ±2%
Q703 2SD636 (S.T) or 2SD637 (S.T)
R733 27
R732 1K

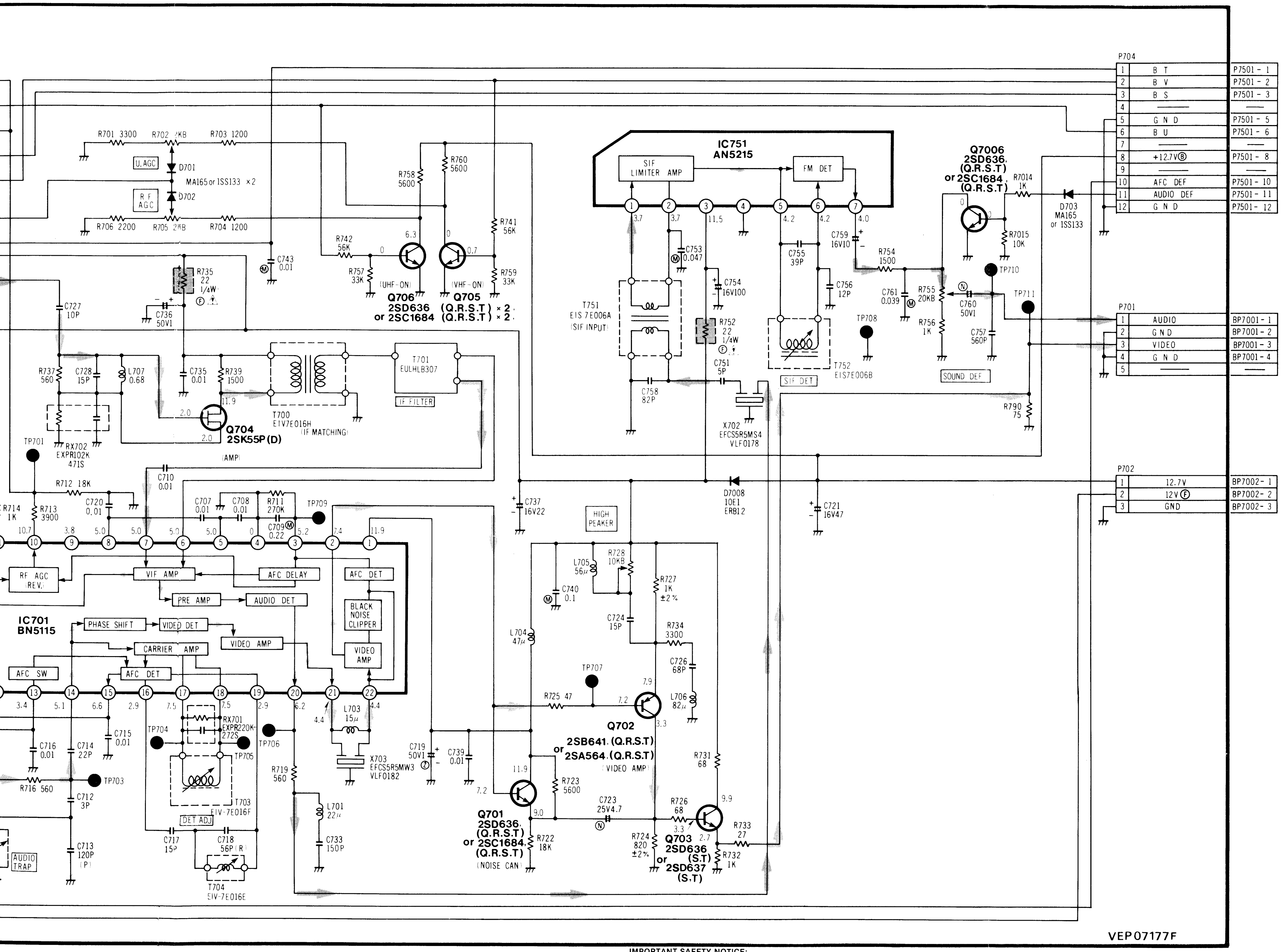
VIDEO LOOP AUDIO LOOP

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE: THE MEASUREMENT MODE
THIS DIAGRAM IS STOP MO

00EO)

SMALL CIRCUIT BOARD


P704
1 B T P7501-1
2 B V P7501-2
3 B S P7501-3
4
5 G N D P7501-5
6 B U P7501-6
7
8 +12.7V P7501-8
9
10 AFC DEF P7501-10
11 AUDIO DEF P7501-11
12 G N D P7501-12
P701
1 AUDIO BP7001-1
2 G N D BP7001-2
3 VIDEO BP7001-3
4 G N D BP7001-4
5
P702
1 12.7V BP7002-1
2 12V BP7002-2
3 GND BP7002-3
IC751
AN5215
SIF LIMITER AMP
FM DET
IC701
BN5115
RF AGC (REV.)
VIF AMP
AFC DELAY
AFC DET
PRE AMP
AUDIO DET
BLACK NOISE CLIPPER
VIDEO AMP
PHASE SHIFT
VIDEO DET
CARRIER AMP
AFC SW
U.AGC
RF AGC
D701
MA165 or 1SS133 ×2
D702
Q7006
2SD636 (Q.R.S.T)
or 2SC1684 (Q.R.S.T)
D703
MA165 or 1SS133
Q706 (UHF-ON)
Q705 (VHF-ON)
2SD636 (Q.R.S.T) ×2
or 2SC1684 (Q.R.S.T) ×2
Q704
2SK55P(D)
(AMP)
T700
EIV7E016H
(IF MATCHING)
T701
EULHLB307
IF FILTER
T751
EIS7E006A
(SIF INPUT)
T752
EIS7E006B
SIF DET
SOUND DEF
X702
EFCS5R5MS4
VLF0178
X703
EFCS5R5MW3
VLF0182
D7008
10E1
ERB12
HIGH PEAKER
Q702
2SB641 (Q.R.S.T)
or 2SA564 (Q.R.S.T)
(VIDEO AMP)
Q701
2SD636 (Q.R.S.T)
or 2SC1684 (Q.R.S.T)
(NOISE CAN)
Q703
2SD636 (S.T)
or 2SD637 (S.T)
T703
EIV-7E016F
DET ADJ
T704
EIV-7E016E
AUDIO TRAP
RX701
EXPR220K-272S
RX702
EXPR102K 471S
TP701
TP703
TP704
TP705
TP706
TP707
TP708
TP709
TP710
TP711
VEP07177F

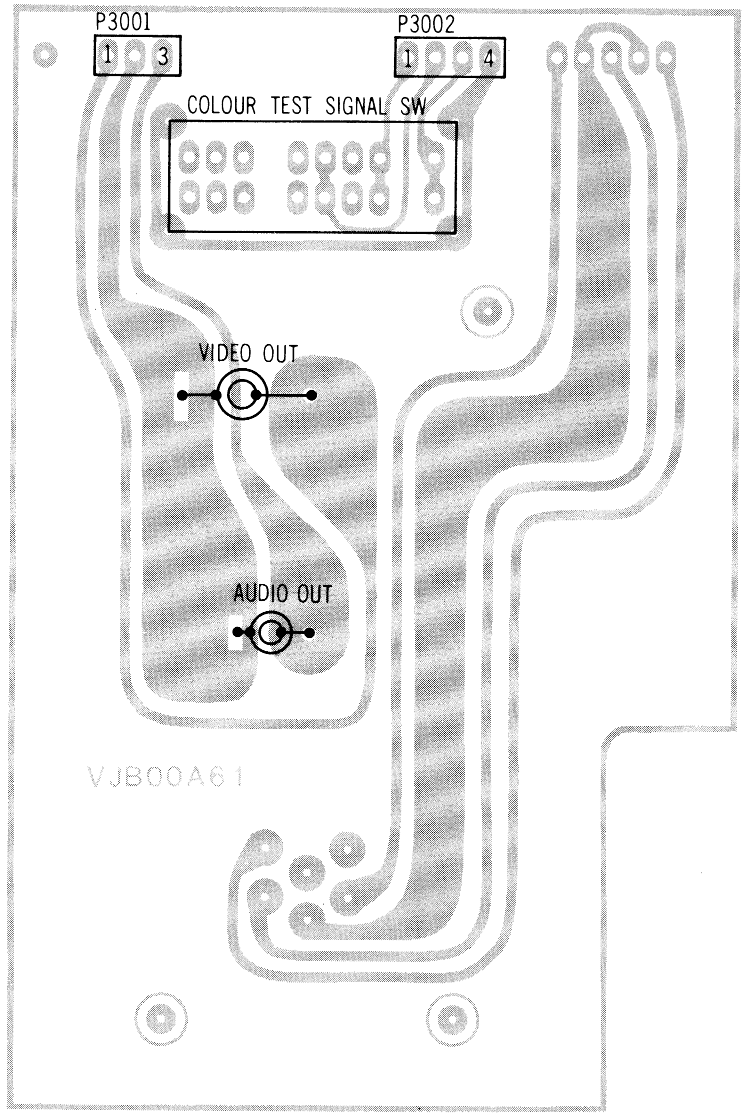
VIDEO LOOP AUDIO LOOP

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFFTY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

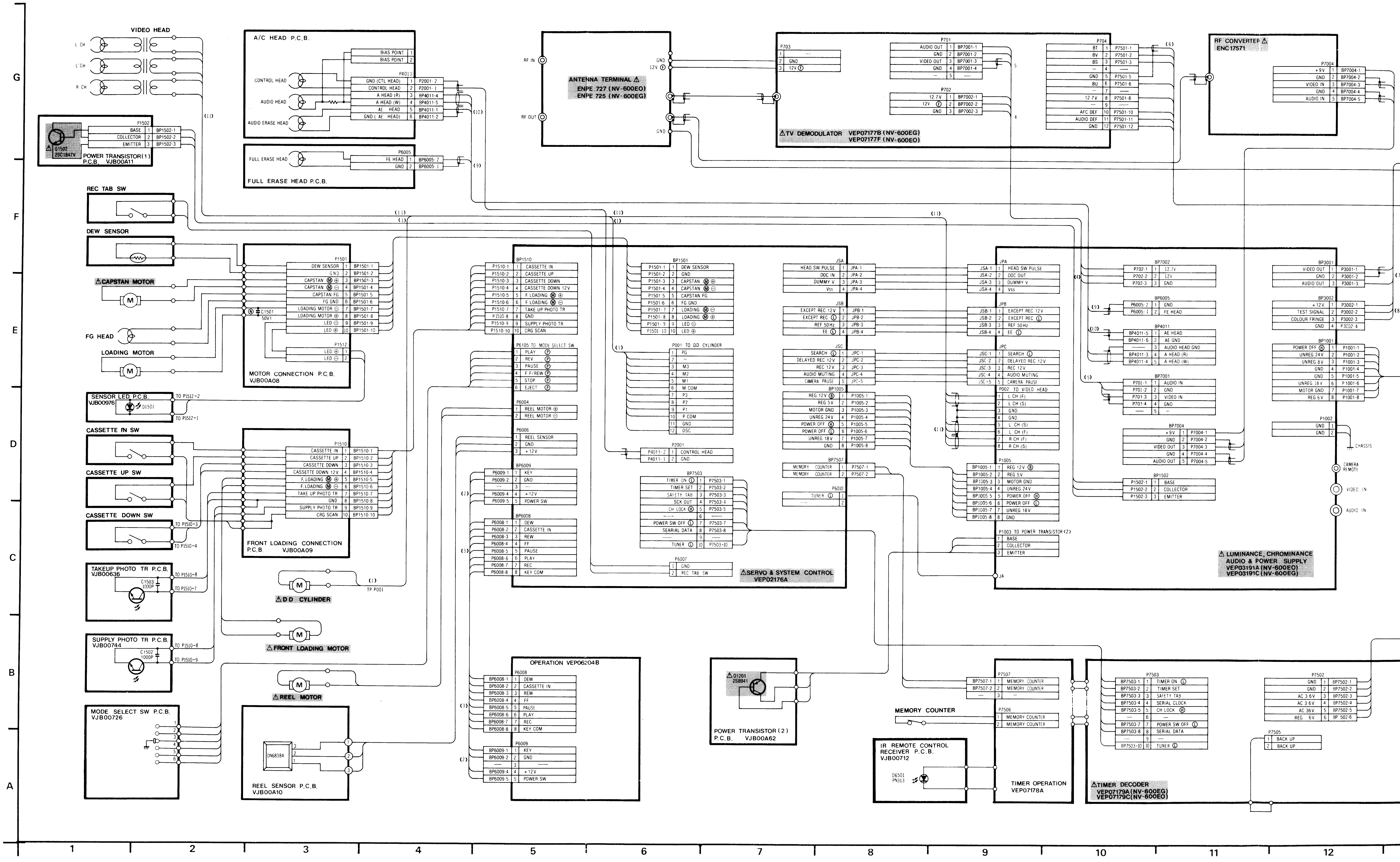
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

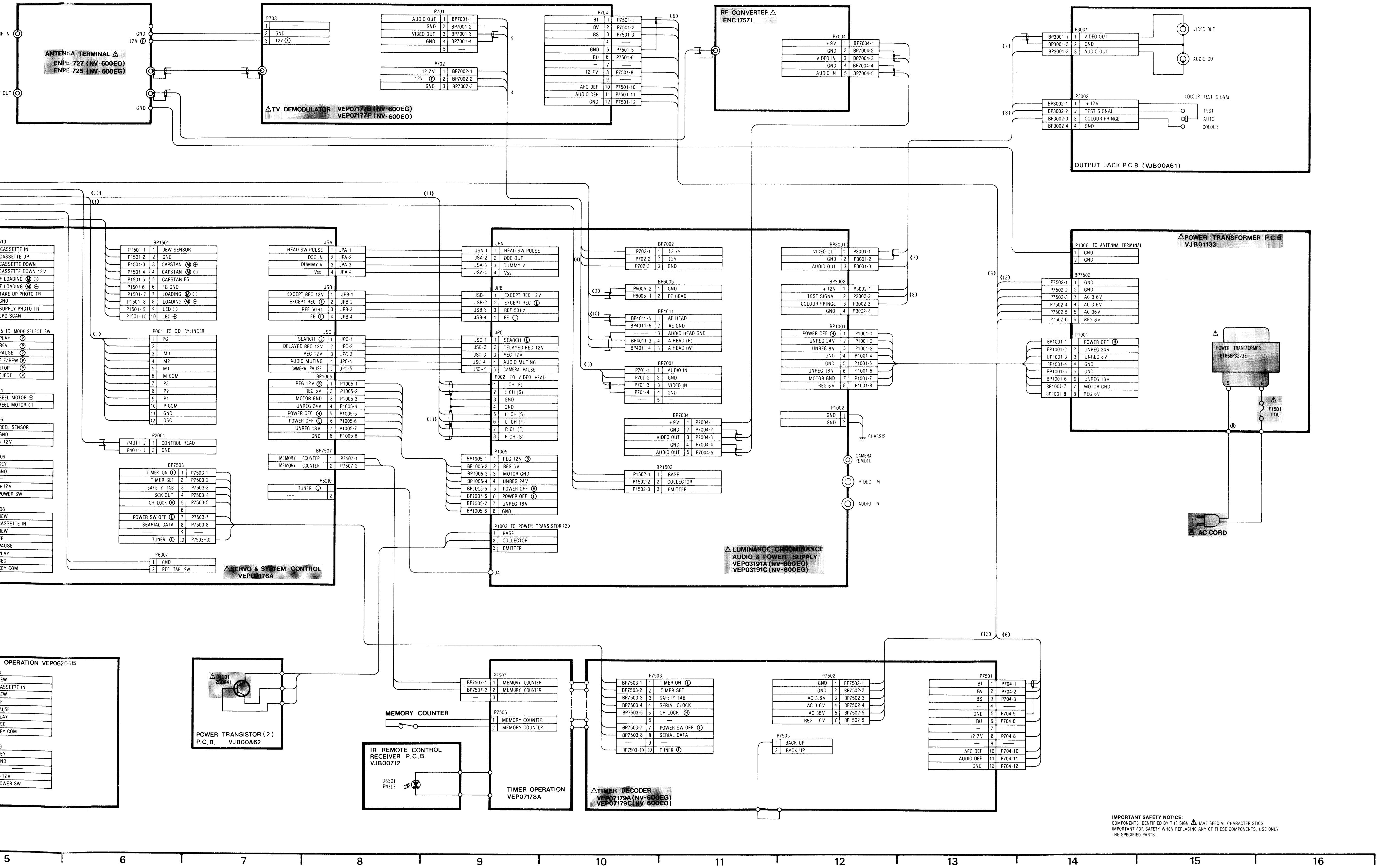
4 5 6 7 8 9 10

OUTPUT JACK P.C.B. (VJB00A61)


P3001
1 3
P3002
1 4
COLOUR TEST SIGNAL SW
VIDEO OUT
AUDIO OUT
VJB00A61

INTERCONNECTION SCHEMATIC DIAGRAM


VIDEO HEAD
A/C HEAD P.C.B.
CONTROL HEAD
AUDIO HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
FULL ERASE HEAD P.C.B.
ANTENNA TERMINAL ENPE 727 (NV-600EO) ENPE 725 (NV-600EG)
RF IN
RF OUT
TV DEMODULATOR VEP07177B (NV-600EG) VEP07177F (NV-600EO)
RF CONVERTER ENC17571
Q1502 2SC1847V
POWER TRANSISTOR (1) P.C.B. VJB00A11
REC TAB SW
DEW SENSOR
CAPSTAN MOTOR
FG HEAD
LOADING MOTOR
MOTOR CONNECTION P.C.B. VJB00A08
SENSOR LED P.C.B. VJB00976
D1501
CASSETTE IN SW
CASSETTE UP SW
CASSETTE DOWN SW
FRONT LOADING CONNECTION P.C.B. VJB00A09
TAKEUP PHOTO TR P.C.B. VJB00636
SUPPLY PHOTO TR P.C.B. VJB00744
MODE SELECT SW P.C.B. VJB00726
D.D CYLINDER
FRONT LOADING MOTOR
REEL MOTOR
REEL SENSOR P.C.B. VJB00A10
DN6838A
SERVO & SYSTEM CONTROL VEP02176A
OPERATION VEP06204B
POWER TRANSISTOR (2) P.C.B. VJB00A62
Q1201 2SB941
MEMORY COUNTER
IR REMOTE CONTROL RECEIVER P.C.B. VJB00712
D6501 PN313
TIMER OPERATION VEP07178A
TIMER DECODER VEP07179A (NV-600EG) VEP07179C (NV-600EO)
LUMINANCE, CHROMINANCE AUDIO & POWER SUPPLY VEP03191A (NV-600EO) VEP03191C (NV-600EG)
CAMERA REMOTE
VIDEO IN
AUDIO IN
CHASSIS
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


ANTENNA TERMINAL ⚠
ENPE 727 (NV-600EO)
ENPE 725 (NV-600EG)
GND
12V
⚠TV DEMODULATOR VEP07177B (NV-600EG)
VEP07177F (NV-600EO)
P703
P701
AUDIO OUT
VIDEO OUT
GND
P702
P704
BT
BV
BS
BU
12.7V
AFC DEF
AUDIO DEF
RF CONVERTER ⚠
ENC17571
P7004
+9V
VIDEO IN
AUDIO IN
P3001
VIDEO OUT
AUDIO OUT
P3002
+12V
TEST SIGNAL
COLOUR FRINGE
COLOUR TEST SIGNAL
TEST
AUTO
COLOUR
OUTPUT JACK P.C.B (VJB00A61)
⚠POWER TRANSFORMER P.C.B
VJB01133
P1006 TO ANTENNA TERMINAL
BP7502
P1001
POWER OFF
UNREG 24V
UNREG 8V
UNREG 18V
MOTOR GND
REG 6V
POWER TRANSFORMER
ETP66P5273E
F1501
T1A
⚠ AC CORD
BP1501
DEW SENSOR
CAPSTAN
CAPSTAN FG
FG GND
LOADING
LED
P001 TO D.D. CYLINDER
PG
M COM
P COM
OSC
P2001
CONTROL HEAD
BP7503
TIMER ON
TIMER SET
SAFETY TAB
SCK OUT
CH LOCK
POWER SW OFF
SERIAL DATA
TUNER
P6007
REC TAB SW
JSA
HEAD SW PULSE
DOC IN
DUMMY V
JSB
EXCEPT REC 12V
EXCEPT REC
REF 50Hz
EE
JSC
SEARCH
DELAYED REC 12V
REC 12V
AUDIO MUTING
CAMERA PAUSE
BP1005
REG 12V
REG 5V
BP7507
MEMORY COUNTER
P6010
⚠SERVO & SYSTEM CONTROL
VEP02176A
JPA
JPB
JPC
P002 TO VIDEO HEAD
L CH (F)
L CH (S)
R CH (F)
R CH (S)
P1005
P1003 TO POWER TRANSISTOR (2)
BASE
COLLECTOR
EMITTER
JA
BP7002
BP6005
FE HEAD
BP4011
AE HEAD
AE GND
AUDIO HEAD GND
A HEAD (R)
A HEAD (W)
BP7001
AUDIO IN
VIDEO IN
BP7004
BP1502
BP3001
BP3002
BP1001
P1002
CHASSIS
CAMERA REMOTE
VIDEO IN
AUDIO IN
⚠ LUMINANCE, CHROMINANCE
AUDIO & POWER SUPPLY
VEP03191A (NV-600EO)
VEP03191C (NV-600EG)
OPERATION VEP062□4B
⚠Q1201
2SB941
POWER TRANSISTOR (2)
P.C.B. VJB00A62
MEMORY COUNTER
IR REMOTE CONTROL
RECEIVER P.C.B.
VJB00712
D6501
PN313
P7507
P7506
TIMER OPERATION
VEP07178A
P7503
SERIAL CLOCK
P7502
P7505
BACK UP
P7501
⚠TIMER DECODER
VEP07179A (NV-600EG)
VEP07179C (NV-600EO)
5
6
7
8
9
10
11
12
13
14
15
16

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

ELECTRICAL REPLACEMENT PARTS LIST

Model No. NV-600EG/EO

Notes:

1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/4W ± 5% carbon. K=1,000Ω, M=1,000KΩ.
   All capacitors are in MICROFARADS (μF), ±10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP03191C	Luminance, Chrominance,	1	NV-600EG ⚠
		Audio & Power Supply		
		P.C. Board Unit		
	VEP07177F	TV Demodulator P.C. Board	1	NV-600EO ⚠
		Unit		
	VEP07179C	Timer Decoder P.C. Board	1	NV-600EO ⚠
		Unit		
	VJB00A61	Output Jack P.C. Board	1	
	ENPE727	Antenna Booster	1	NV-600EO ⚠
	VEP03191C	Luminance, Chrominance,		(NV-600EG) ⚠
		Audio & Power Supply		
		P.C. Board Unit		
		(Power Supply Section)		
		Integrated Circuit		
IC1001	AN78N12		1	
		Transistors		
Q1001	2SD1206		1	(Q,R,S) or 2SD889(Q,R,S)
Q1002	2SD636		1	(Q,R,S)
Q1003	2SD836		1	⚠
Q1004,1005	2SD636		2	(Q,R,S)
		Diodes		
D1001	10E1		1	⚠
D1002	MA165		1	
D1003	RD5.6JB	Zener	1	
D1004	10E1		1	⚠
D1005	RD7.5EB3	Zener	1	or MA1075
D1006	RD2.7EB	Zener	1	
D1007	MA165		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Resistors		
R1001	ERDS2TJ392	3.9K	1	
R1002	ERDS2TJ562	5.6K	1	
R1003	ERDS2TJ392	3.9K	1	
R1004	ERDS2TJ682	6.8K	1	
R1005	EVNK6AA00B23	Variable 2K	1	
R1006	ERDS2TJ472	4.7K	1	
R1007	ERDS2TJ362	3.6K	1	
R1008	ERDS2TJ682	6.8K	1	
R1009	ERDS2TJ562	5.6K	1	
R1010	ERDS2TJ152	1.5K	1	
R1011	EVNK6AA00B23	Variable 2K	1	
R1012	ERDS2TJ272	2.7K	1	
R1013	ERDS2TJ332	3.3K	1	
R1014	ERDS2TJ562	5.6K	1	
R1015	ERDS2TJ153	15K	1	
R1016	ERDS2TJ152	1.5K	1	
R1017	ERDS2TJ121	120	1	
		Capacitors		
C1001	ECEA1CS330	Electrolytic 16V 33	1	
C1002	ECEA1ES470	Electrolytic 25V 47	1	
C1003	ECEA0JS470	Electrolytic 6.3V 47	1	
C1005	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C1006	ECEA1CS470	Electrolytic 16V 47	1	
C1007,1008	ECKF1H103ZF	Ceramic 50V 0.01	2	
		Coil		
L1001	VLQEL06F102K	1mH	1	
		Connectors		
P1002	VJP1141	2P	1	
P1003	VJP1230	3P	1	
P1005	VJP1235	8P	1	
		(Luminance Section)		
		Integrated Circuits		
IC3001	AN6306		1	
IC3002	AN6337		1	
IC3003	AN6328		1	
IC3004	AN6326N		1	
IC3007	BA7004		1	
		Transistors		
Q3001,3002	2SB641		2	
Q3003,3004	2SD636		2	
Q3006	2SC2377		1	
Q3007	2SC2206		1	
Q3008	2SB641		1	
Q3011	2SC2377		1	
Q3018	2SD636		1	
Q3019,3020	2SC2377		2	
Q3021	2SD1205		1	(Q,R)
Q3022	2SC2206		1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
Q3025,3026		2SC2377		2	
Q3027		2SD636		1	
Q3029		2SD636		1	
Q3030,3031		2SC2206		2	
Q3033		2SB641		1	
Q3035		2SA719		1	
Q3036		2SB641		1	
Q3037		2SC2206		1	
Q3039		2SB641		1	
Q3045		2SD636		1	
			Diodes		
D3001		RD3.0EB	Zener	1	
D3002		MA165		1	
D3004,3005		MA165		2	
D3011,3012		MA165		2	
D3015-3018		MA165		4	
D3022-3025		MA165		4	
D3027		MA165		1	
D3028		MA165		1	
			Resistors		
R3001,3002		ERDS2TJ102	1K	2	
R3003		ERDS2TJ562	5.6K	1	
R3004		ERDS2TJ122	1.2K	1	
R3005		ERDS2TJ392	3.9K	1	
R3006		ERDS2TJ272	2.7K	1	
R3007		ERDS2TJ222	2.2K	1	
R3008		ERDS2TJ392	3.9K	1	
R3009		ERDS2TJ182	1.8K	1	
R3010		ERDS2TJ103	10K	1	
R3011		EVNK6AA00B24	Variable 20K	1	
R3012		ERDS2TJ332	3.3K	1	
R3013		EVNK6AA00B14	Variable 10K	1	
R3014		ERDS2TJ564	560K	1	
R3015		EVNK6AA00B54	Variable 50K	1	
R3016		ERDS2TJ563	56K	1	
R3017		EVNK6AA00B24	Variable 20K	1	
R3020		ERDS2TJ391	390	1	
R3021		ERDS2TJ561	560	1	
R3022		ERDS2TJ102	1K	1	
R3023,3024		ERDS2TJ223	22K	2	
R3027		ERDS2TJ222	2.2K	1	
R3028,3029		ERDS2TJ103	10K	2	
R3030		ERDS2TJ222	2.2K	1	
R3031		ERDS2TJ122	1.2K	1	
R3032		ERDS2TJ681	680	1	
R3033		ERDS2TJ471	470	1	
R3034		ERDS2TJ334	330K	1	
R3035		ERDS2TJ222	2.2K	1	
R3036		ERDS2TJ122	1.2K	1	
R3037		ERDS2TJ222	2.2K	1	
R3038		ERDS2TJ392	3.9K	1	
R3039		ERDS2TJ222	2.2K	1	
R3040		ERDS2TJ152	1.5K	1	
R3041		ERDS2TJ100	10	1	
R3042		ERDS2TJ564	560K	1	
R3043		ERDS2TJ331	330	1	
R3044		ERDS2TJ473	47K	1	
R3045		ERDS2TJ124	120K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3046		EVNK6AA00B23	Variable 2K	1	
R3047		ERDS2TJ122	1.2K	1	
R3049		ERDS2TJ820	82	1	
R3050		ERDS2TJ471	470	1	
R3052		ERDS2TJ562	5.6K	1	
R3053		ERDS2TJ122	1.2K	1	
R3054		ERDS2TJ152	1.5K	1	
R3055		ERDS2TJ821	820	1	
R3056		ERDS2TJ181	180	1	
R3057		ERDS2TJ560	56	1	
R3058,3059		ERDS2TJ682	6.8K	2	
R3060,3061		ERDS2TJ560	56	2	
R3071		ERDS2TJ102	1K	1	
R3079		ERDS2TJ153	15K	1	
R3081		ERDS2TJ821	820	1	
R3082		ERDS2TJ153	15K	1	
R3083		ERDS2TJ821	820	1	
R3087,3088		ERDS2TJ223	22K	2	
R3091,3092		ERDS2TJ100	10	2	
R3095,3096		ERDS2TJ102	1K	2	
R3097		ERDS2TJ103	10K	1	
R3099		ERDS2TJ473	47K	1	
R3100		ERDS2TJ183	18K	1	
R3101		ERDS2TJ123	12K	1	
R3102,3103		EVN3ACA00B13	Variable 1K	2	
R3104		ERDS2TJ123	12K	1	
R3105		ERDS2TJ222	2.2K	1	
R3106		ERDS2TJ472	4.7K	1	
R3107		ERDS2TJ102	1K	1	
R3108		ERDS2TJ223	22K	1	
R3109		EVJEFAF20B23	Variable 2K	1	
R3110		ERDS2TJ331	330	1	
R3111		ERDS2TJ391	390	1	
R3112		ERDS2TJ151	150	1	
R3113		ERDS2TJ122	1.2K	1	
R3114		EVNK6AA00B23	Variable 2K	1	
R3115		ERDS2TJ222	2.2K	1	
R3116		EVNK6AA00B23	Variable 2K	1	
R3117		ERDS2TJ560	56	1	
R3118		ERDS2TJ680	68	1	
R3119,3120		ERDS2TJ122	1.2K	2	
R3121		ERDS2TJ101	100	1	
R3122		ERDS2TJ102	1K	1	
R3123		ERDS2TJ681	680	1	
R3126,3127		ERDS2TJ152	1.5K	2	
R3128		ERDS2TJ681	680	1	
R3129		ERDS2TJ152	1.5K	1	
R3130,3131		ERDS2TJ102	1K	2	
R3132		ERDS2TJ103	10K	1	
R3134		EVN3ACA00B13	Variable 1K	1	
R3137		ERDS2TJ333	33K	1	
R3138		ERDS2TJ273	27K	1	
R3147		ERDS2TJ182	1.8K	1	
R3148,3149		ERDS2TJ391	390	2	
R3151		ERDS2TJ390	39	1	
R3152		ERDS2TJ561	560	1	
R3153		ERDS2TJ102	1K	1	
R3154		ERDS2TJ681	680	1	
R3155		ERDS2TJ561	560	1	
R3156		ERDS2TJ392	3.9K	1	
R3157		ERDS2TJ561	560	1	
R3158		ERDS2TJ392	3.9K	1	
R3163,3164		ERDS2TJ103	10K	2	
R3168		ERDS2TJ103	10K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3169		ERDS2TJ152	1.5K	1	
R3170		ERDS2TJ222	2.2K	1	
R3171		ERDS2TJ682	6.8K	1	
R3172		ERDS2TJ562	5.6K	1	
R3175		ERDS2TJ750	75	1	
R3176		ERG12ANJ121P	Metal Oxide 1/2W 120	1	
R3178		ERDS2TJ101	100	1	
R3179		ERDS2TJ561	560	1	
R3180		ERDS2TJ272	2.7K	1	
R3181		ERDS2TJ182	1.8K	1	
R3182		ERDS2TJ822	8.2K	1	
R3183		ERDS2TJ152	1.5K	1	
R3184,3185		ERDS2TJ102	1K	2	
R3202		ERD50TJ331	1/2W 330	1	
R3204		ERDS2TJ222	2.2K	1	
R3212-3214		ERDS2TJ103	10K	3	
R3231		ERDS2TJ682	6.8K	1	
R3232		EVNK6AA00B14	Variable 10K	1	
R3236		ERDS2TJ390	39	1	
R3237		ERDS2TJ102	1000	1	
R3238		ERDS2TJ181	180	1	
R3242		ERDS2TJ391	390	1	
R3243		ERDS2TJ472	4.7K	1	
R3244		ERDS2TJ473	47K	1	
R3245		ERDS2TJ102	1K	1	
R3246		ERDS2TJ122	1.2K	1	
			Capacitors		
C3001		ECEA1HNR47	Electrolytic 50V 0.47	1	
C3002,3003		ECKF1H271KB	Ceramic 50V 270P	2	
C3004		ECEA1HN010	Electrolytic 50V 1	1	
C3005		ECCF1H121J	Ceramic 50V 120P	1	
C3006		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3007		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3008		ECEA0JS470	Electrolytic 6.3V 47	1	
C3009		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3010		ECKF1H121KB	Ceramic 50V 120P	1	
C3011		ECEA0JS221	Electrolytic 6.3V 220	1	
C3012		ECCF1H390J	Ceramic 50V 39P	1	
C3013		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3014		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3016		ECCF1H470J	Ceramic 50V 47P	1	
C3017		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3018		ECCF1H390J	Ceramic 50V 39P	1	
C3019,3020		ECKF1H103ZF	Ceramic 50V 0.01	2	
C3021		ECCF1H120J	Ceramic 50V 12P	1	
C3022		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3023		ECKF1H222ZF	Ceramic 50V 2200P	1	
C3024		ECOV05104JB	Mylar 50V 0.1	1	
C3025		ECEA0JS221	Electrolytic 6.3V 220	1	
C3026		ECKF1H121KB	Ceramic 50V 120P	1	
C3027,3028		ECEA1HS010	Electrolytic 50V 1	2	
C3029		ECKF1H181KB	Ceramic 50V 180P	1	
C3030		ECEA1CS100	Electrolytic 16V 10	1	
C3031		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3032		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3033		ECKF1H122KB	Ceramic 50V 1200P	1	
C3034		ECEA0JK470	Electrolytic 6.3V 47	1	
C3035		ECCF1H820J	Ceramic 50V 82P	1	
C3036		ECKF1H181KB	Ceramic 50V 180P	1	
C3037,3038		ECEA1CK470	Electrolytic 16V 47	2	
C3039		ECEA1CS100	Electrolytic 16V 10	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C3040		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3041		ECKF1H221KB	Ceramic 50V 220P	1	
C3042		ECEA1CS470	Electrolytic 16V 47	1	
C3044		ECEA50Z1	Electrolytic 50V 1	1	
C3048,3049		ECKF1H103ZF	Ceramic 50V 0.01	2	
C3052-3054		ECV1ZW40X64	Tantalum 500V 40P	3	
C3055		ECEA1CK470	Electrolytic 16V 47	1	
C3056		ECEA1AS221	Electrolytic 10V 220	1	
C3057		ECCF1H470J	Ceramic 50V 47P	1	
C3058		ECKF1H391KB	Ceramic 50V 390P	1	
C3059		ECKF1H101KB	Ceramic 50V 100P	1	
C3060,3061		ECKF1H103ZF	Ceramic 50V 0.01	2	
C3062		ECCF1H561J	Ceramic 50V 560P	1	
C3063		ECKF1H391KB	Ceramic 50V 390P	1	
C3064		ECEA1HN010	Electrolytic 50V 1	1	
C3065		ECKF1H122KB	Ceramic 50V 1200P	1	
C3066,3067		ECEA1HS010	Electrolytic 50V 1	2	
C3068,3069		ECEA1AS470	Electrolytic 10V 47	2	
C3072		ECCF1H560J	Ceramic 50V 56P	1	
C3073		ECEA1HS010	Electrolytic 50V 1	1	
C3074		ECEA1CS100	Electrolytic 16V 10	1	
C3075,3076		ECQV05104JB	Mylar 50V 0.1	2	
C3077		ECEA1CS100	Electrolytic 16V 10	1	
C3078		ECEA1AS470	Electrolytic 10V 47	1	
C3079-3081		ECKF1H103ZF	Ceramic 50V 0.01	3	
C3082		ECEA1AS470	Electrolytic 10V 47	1	
C3083		ECKF1H561KB	Ceramic 50V 560P	1	
C3084		ECCF1H560J	Ceramic 50V 56P	1	
C3098		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3100		ECCF1H220JC	Ceramic 50V 22P	1	
C3101		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3102		ECEA1AK470	Electrolytic 10V 47	1	
C3103,3104		ECKF1H271KB	Ceramic 50V 270P	2	
C3105		ECCF1H431J	Ceramic 50V 430P	1	
C3106		ECEA1AS470	Electrolytic 10V 47	1	
C3107		ECKF1H151KB	Ceramic 50V 150P	1	
C3108		ECEA1AS470	Electrolytic 10V 47	1	
C3109		ECEA0JS221	Electrolytic 6.3V 220	1	
C3110,3111		ECEA1CS100	Electrolytic 16V 10	2	
C3112,3113		VCY25332KW	Semiconductor 25V 3300P	2	
C3114		ECEA1CS101	Electrolytic 16V 100	1	
C3115		ECEA1CS100	Electrolytic 16V 10	1	
C3134		ECEA0JS471	Electrolytic 6.3V 470	1	
C3135		ECEA1CS470	Electrolytic 16V 47	1	
C3143		ECKF1H472KB	Ceramic 50V 4700P	1	
C3149		VCY25333KW	Semiconductor 25V 0.033	1	
C3150		ECCF1H390J	Ceramic 50V 39P	1	
C3151		ECCF1H680J	Ceramic 50V 68P	1	
C3152		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3153		ECCF1H100DC	Ceramic 50V 10P	1	
C3154,3155		ECQV05104JB	Mylar 50V 0.1	2	
C3156		ECEA50Z1	Electrolytic 50V 1	1	
			Coils		
L3001-3005		VLQEL06F101K	100μH	5	
L3006		VLQEL06F270K	27μH	1	
L3007		VLQEL06F151K	150μH	1	
L3010,3011		VLQ0127	2.2μH	2	
L3012		VLQEL06F150K	15μH	1	
L3013		VLQEL06F330K	33μH	1	
L3016		VLQEL06F820K	82μH	1	
L3017		VLQEL06F101K	100μH	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
L3018		VLQEL06F102K	1mH	1	
L3019		VLQEL06F471K	470μH	1	
L3020		VLQEL06F220K	22μH	1	
L3024		VLQEL06F101K	100μH	1	
L3025,3026		VLQEL06F100K	10μH	2	
L3027		VLQEL06F2R7K	2.7μH	1	
L3028		VLQEL06F151K	150μH	1	
L3029		VLQEL06F180K	18μH	1	
L3030,3031		VLQEL06F101K	100μH	2	
L3045		VLQEL06F820K	82μH	1	
			Delay Line		
DL3002		VLD0022		1	
			Filters		
FL3001		VLF0186		1	
FL3002		VLF0188		1	
FL3003,3004		VLF0187		2	
FL3005		VLF0300		1	
			Relay		
RY3001		VSY2028		1	
			Switch		
S3001		VSS0052		1	
			Crystal Oscillator		
X3002		VSX0099		1	
			Connector		
P002		VJP1145	8P	1	
			(Audio Section)		
			Integrated Circuits		
IC4001		TA7325P		1	
IC4002		TA7355P		1	
			Transistors		
Q4001		2SD655		1	
Q4002		2SB641		1	
Q4003		2SD636		1	
Q4004		2SD639		1	(R)
Q4005,4006		2SD636		2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
Q4007		2SD655		1	
Q4008		2SD636		1	
Q4009		2SB641		1	
Q4010		2SD655		1	or 2SD1244
Q4011		2SD655		1	
			Diode		
D4001		MA165		1	
			Resistors		
R4001		ERDS2TJ330	33	1	
R4002		ERDS2TJ221	220	1	
R4003		ERDS2TJ332	3.3K	1	
R4004		ERDS2TJ102	1K	1	
R4005		ERDS2TJ183	18K	1	
R4006		ERDS2TJ473	47K	1	
R4007		ERDS2TJ103	10K	1	
R4008		EVNK6AA00B15	Variable 100K	1	
R4009		ERDS2TJ103	10K	1	
R4010		ERDS2TJ223	22K	1	
R4011		ERDS2TJ103	10K	1	
R4012		ERDS2TJ473	47K	1	
R4013		ERDS2TJ392	3.9K	1	
R4014		ERDS2TJ223	22K	1	
R4015		ERDS2TJ333	33K	1	
R4016,4017		ERDS2TJ103	10K	2	
R4018		ERDS2TJ105	1M	1	
R4019		ERDS2TJ104	100K	1	
R4020		ERDS2TJ101	100	1	
R4021		ERDS2TJ104	100K	1	
R4022		ERDS2TJ223	22K	1	
R4023		ERDS2TJ4R7	4.7	1	
R4024		ERDS2TJ332	3.3K	1	
R4025		ERDS2TJ152	1.5K	1	
R4026		ERDS2TJ394	390K	1	
R4027		ERDS2TJ332	3.3K	1	
R4028		ERDS2TJ101	100	1	
R4029		ERDS2TJ153	15K	1	
R4030		ERDS2TJ394	390K	1	
R4032		ERDS2TJ392	3.9K	1	
R4033		EVNK6AA00B53	Variable 5K	1	
R4034		ERDS2TJ332	3.3K	1	
R4035		ERDS2TJ473	47K	1	
R4036-4038		ERDS2TJ562	5.6K	3	
R4039		ERDS2TJ104	100K	1	
R4040		ERDS2TJ333	33K	1	
R4041		ERDS2TJ104	100K	1	
R4042		ERDS2TJ561	560	1	
R4043		ERDS2TJ100	10	1	
			Capacitors		
C4001		ECQV05823JB	Mylar 50V 0.082	1	
C4002		ECEA1CS100	Electrolytic 16V 10	1	
C4003		ECQM1H102JZ	Mylar 50V 1000P	1	
C4004		ECEA0JS330	Electrolytic 6.3V 33	1	
C4005		ECQV05333JZ	Mylar 50V 0.033	1	
C4006		ECEA1AS470	Electroltyic 10V 47	1	
C4007		ECEA1EK3R3	Electroltyic 25V 3.3	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C4008		ECEA0JK101	Electrolytic 6.3V 100	1	
C4009		ECEA1CK100	Electrolytic 16V 10	1	
C4010		ECQF6222KZH	Mylar 630V 2200P	1	
C4011		ECEA1CS100	Electrolytic 16V 10	1	
C4012		ECEA1CK100	Electrolytic 16V 10	1	
C4013		ECEA1CS100	Electrolytic 16V 10	1	
C4014		ECEA1HK010	Electrolytic 50V 1	1	
C4015		ECKF1H471KB	Ceramic 50V 470P	1	
C4016		ECKF1H103ZF	Ceramic 50V 0.01	1	
C4017		ECEA1HS010	Electrolytic 50V 1	1	
C4018		ECEA1CS221	Electrolytic 16V 220	1	
C4019		ECEA1HS010	Electrolytic 50V 1	1	
C4020		ECEA1AS470	Electrolytic 10V 47	1	
C4021		ECEA1CS101	Electrolytic 16V 100	1	
C4023		ECCD2H121K	Ceramic 500V 120P	1	
C4024		ECEA1CS100	Electrolytic 16V 10	1	
C4025		VCY25223KW	Semiconductor 25V 0.022	1	
C4026		VCY25103KW	Semiconductor 25V 0.01	1	
C4027		ECEA1HKR47	Electrolytic 50V 0.47	1	
C4028		ECQM1H103JZ	Mylar 50V 0.01	1	
C4029		ECQV05273JZ	Mylar 50V 0.027	1	
			Coils		
L4001		VLQEL06F471K	470μH	1	
L4002		VLQEL07L222K	2.2mH	1	
L4003		VTQ0014	10mH	1	
L4004		VTQ0014	10mH	1	
			Transformer		
T4001		VLT0181		1	
			(Chrominance Section)		
			Integrated Circuits		
IC8001		AN6308		1	
IC8002		AN6367		1	
IC8003		MN6163A		1	
IC8004		BA7007		1	
IC8005		AN6342N		1	
			Transistors		
Q8001-8003		2SD636		3	
Q8005,8006		2SD636		2	
Q8007		2SD636		1	
Q8008,8009		2SB641		2	
Q8010		2SC828		1	(R,S)
Q8011,8012		2SD636		2	
Q8015		2SC1327		1	
Q8017,8018		2SC2206		2	
Q8020,8021		2SD636		2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Diodes		
D8001,8002		MA165		2	
D8004		MA165		1	
			Resistors		
R8001,8002		ERDS2TJ473	47K	2	
R8003		ERDS2TJ104	100K	1	
R8004,8005		ERDS2TJ332	3.3K	2	
R8006		ERDS2TJ473	47K	1	
R8007		ERDS2TJ472	4.7K	1	
R8008		ERDS2TJ102	1K	1	
R8009		ERDS2TJ122	1.2K	1	
R8010		ERDS2TJ102	1K	1	
R8011		ERDS2TJ270	27	1	
R8012		ERDS2TJ471	470	1	
R8013		ERDS2TJ183	18K	1	
R8014		ERDS2TJ822	8.2K	1	
R8015-8019		ERDS2TJ391	390	5	
R8020		EVNK6AA00B14	Variable 10K	1	
R8023		ERDS2TJ682	6.8K	1	
R8024		ERDS2TJ821	820	1	
R8025		ERDS2TJ273	27K	1	
R8026		EVNK6AA00B24	Variable 20K	1	
R8027		ERDS2TJ511	510	1	
R8028		ERDS2TJ152	1.5K	1	
R8029,8030		ERDS2TJ102	1K	2	
R8031		ERDS2TJ472	4.7K	1	
R8032		EVNK6AA00B13	Variable 1K	1	
R8033		ERDS2TJ223	22K	1	
R8034		ERDS2TJ562	5.6K	1	
R8035		ERDS2TJ102	1K	1	
R8036		ERDS2TJ151	150	1	
R8037		ERDS2TJ822	8.2K	1	
R8038		ERDS2TJ272	2.7K	1	
R8039		ERDS2TJ681	680	1	
R8040		ERDS2TJ102	1K	1	
R8041		ERDS2TJ182	1.8K	1	
R8042		ERDS2TJ562	5.6K	1	
R8043		ERDS2TJ272	2.7K	1	
R8044,8045		ERDS2TJ471	470	2	
R8046		ERDS2TJ103	10K	1	
R8047		ERDS2TJ562	5.6K	1	
R8048		ERDS2TJ103	10K	1	
R8049		ERDS2TJ153	15K	1	
R8051		ERDS2TJ273	27K	1	
R8052		ERDS2TJ272	2.7K	1	
R8053		ERDS2TJ470	47	1	
R8054		ERDS2TJ273	27K	1	
R8055		ERDS2TJ273	27K	1	
R8056,8057		ERDS2TJ333	33K	2	
R8058,8059		ERDS2TJ102	1K	2	
R8060		ERDS2TJ562	5.6K	1	
R8063		ERDS2TJ104	100K	1	
R8064		ERDS2TJ153	15K	1	
R8065		ERDS2TJ104	100K	1	
R8066		ERDS2TJ203	20K	1	
R8070		ERDS2TJ562	5.6K	1	
R8071		ERDS2TJ103	10K	1	
R8072		ERDS2TJ331	330	1	
R8073		ERDS2TJ472	4.7K	1	
R8074		ERDS2TJ150	15	1	
R8075		ERDS2TJ331	330	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R8076		ERDS2TJ222	2.2K	1	
R8077		ERDS2TJ154	150K	1	
R8078		ERDS2TJ564	560K	1	
R8079		ERDS2TJ473	47K	1	
R8080		ERDS2TJ393	39K	1	
R8081		ERDS2TJ822	8.2K	1	
R8082		ERDS2TJ102	1K	1	
R8083		ERDS2TJ222	2.2K	1	
R8084		ERDS2TJ563	56K	1	
R8085		ERDS2TJ223	22K	1	
R8086		ERDS2TJ151	150	1	
R8087		ERDS2TJ104	100K	1	
R8088,8089		ERDS2TJ473	47K	2	
R8090		ERDS2TJ102	1K	1	
R8091		ERDS2TJ822	8.2K	1	
R8093		ERDS2TJ104	100K	1	
R8094,8095		ERDS2TJ562	5.6K	2	
R8096		ERDS2TJ221	220	1	
			Capacitors		
C8001,8002		ECKF1H103ZF	Ceramic 50V 0.01	2	
C8003		VCY25104KW	Semiconductor 25V 0.1	1	
C8004-8006		ECKF1H103ZF	Ceramic 50V 0.01	3	
C8007,8008		ECKF1H103ZF	Ceramic 50V 0.01	2	
C8009		ECKF1H223ZF	Ceramic 50V 0.022	1	
C8010		ECEA1HS010	Electrolytic 50V 1	1	
C8011		ECEA1ES100	Electrolytic 25V 10	1	
C8012		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8013		ECCF1H270J	Ceramic 50V 27P	1	
C8014-8017		ECKF1H103ZF	Ceramic 50V 0.01	4	
C8018		ECKF1H182KB	Ceramic 50V 1800P	1	
C8019		ECKF1H102KB	Ceramic 50V 1000P	1	
C8020		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8021		ECEA1HS010	Electrolytic 50V 1	1	
C8022		ECEA1AS470	Electrolytic 10V 47	1	
C8023		ECKF1H102KB	Ceramic 50V 1000P	1	
C8024		ECV1ZW20X64	Tantalum 500V 20P	1	
C8025		ECCF1H050CC	Ceramic 50V 5P	1	
C8026		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8027		ECEA0JS221	Electrolytic 6.3V 220	1	
C8028		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8029		ECCF1H390J	Ceramic 50V 39P	1	
C8030		ECKF1H221KB	Ceramic 50V 220P	1	
C8031,8032		ECKF1H103ZF	Ceramic 50V 0.01	2	
C8033		ECEA0JS470	Electrolytic 6.3V 47	1	
C8036		ECKF1H472KB	Ceramic 50V 4700P	1	
C8037		ECCF1H680J	Ceramic 50V 68P	1	
C8038		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8039		ECQM1H473JZ	Mylar 50V 0.047	1	
C8040		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8041		ECEA0JS470	Electrolytic 6.3V 47	1	
C8042		ECKF1H472KB	Ceramic 50V 4700P	1	
C8043		ECKF1H681KB	Ceramic 50V 680P	1	
C8044		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8045		ECKF1H181KB	Ceramic 50V 180P	1	
C8046		ECKF1H121KB	Ceramic 50V 120P	1	
C8047		ECKF1H331KB	Ceramic 50V 330P	1	
C8048		ECCF1H270J	Ceramic 50V 27P	1	
C8049		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8050		ECEA1CS330	Electrolytic 16V 33	1	
C8051		ECEA1CS100	Electrolytic 16V 10	1	
C8052		ECEA1CS101	Electrolytic 16V 100	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C8053		ECQM1H183JZ	Mylar 50V 0.018	1	
C8054		ECCF1H330J	Ceramic 50V 33P	1	
C8055		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8056		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8057		ECEA1CS100	Electrolytic 16V 10	1	
C8058		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8059		ECEA0JS470	Electrolytic 6.3V 47	1	
C8060		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8061		ECQV05154JZ	Mylar 50V 0.15	1	
C8062		ECKF1H471KB	Ceramic 50V 470P	1	
C8063		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8064		ECKF1H182KB	Ceramic 50V 1800P	1	
			Coils		
L8001,8002		VLQEL06F101K	100μH	2	
L8003,8004		VLQEL06F6R8K	6.8μH	2	
L8005		VLQEL06F270K	27μH	1	
L8006		VLQEL06F470K	47μH	1	
L8007		VLQEL06F390K	39μH	1	
L8008		VLQEL06F101K	100μH	1	
L8009,8010		VLQEL07L682J	6.8mH	2	
L8011		VLQEL06F101K	100μH	1	
L8012		VLQEL06F150K	15μH	1	
L8013		ELM10Q011C		1	
L8014		VLQ0103	680μH	1	or VLQFS07L681K
L8015		VLQEL06F151K	150μH	1	
			Delay Line		
DL8001		VLD0014		1	
			Filters		
FL8001		VLF0190		1	
FL8002		VLF0192		1	
FL8003		VLF0191		1	
FL8004		EFCS5R06MS4V		1	
FL8005		VLF0143		1	
			Crystal Oscillator		
X8001		VSX0066		1	
			Miscellaneous		
		VJF0130	Wire Saddle	2	
		VMX0573	Spacer	2	
		VSC1043	Shield Case (Main)	1	
		VSC1044	Shield Case (Bottom)	1	
JSA		VJS1171	Connector 4P	1	
JSB		VJS1171	Connector 4P	1	
JSC		VJS1180	Connector 5P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP07177F	TV Demodulator P.C. Board Unit		(NV-600EO)
			Integrated Circuits		
IC701		BN5115		1	
IC751		AN5215		1	
			Transistors		
Q701		2SD636		1	(Q,R,S,T)
					or 2SC1684(Q,R,S,T)
Q702		2SB641		1	(Q,R,S,T)
					or 2SA564(Q,R,S,T)
Q703		2SD636		1	(S,T)
					or 2SD637(S,T)
Q704		2SK55P	FET	1	(D)
Q705,706		2SD636		2	(Q,R,S,T)
					or 2SC1684(Q,R,S,T)
Q7006		2SD636		1	(Q,R,S,T)
					or 2SC1684(Q,R,S,T)
			Diodes		
D701-703		MA165		3	or 1SS133
D7008		10E1		1	or ERB12
			Resistors		
R701		ERDS2TJ332	3.3K	1	
R702		EVN50AA00B23	Variable 2K	1	
R703,704		ERDS2TJ122	1.2K	2	
R705		EVN50AA00B23	Variable 2K	1	
R706		ERDS2TJ222	2.2K	1	
R707		ERDS2TJ393	39K	1	
R708		ERDS2TJ473	47K	1	
R711		ERDS2TJ274	270K	1	
R712		ERDS2TJ183	18K	1	
R713		ERDS2TJ392	3.9K	1	
R714		ERDS2TJ102	1K	1	
R715		ERDS2TJ391	390	1	
R716		ERDS2TJ561	560	1	
R717		ERDS2TJ102	1K	1	
R719		ERDS2TJ561	560	1	
R722		ERDS2TJ183	18K	1	
R723		ERDS2TJ562	5.6K	1	
R724		EROS2CKG8200	820	1	
R725		ERDS2TJ470	47	1	
R726		ERDS2TJ680	68	1	
R727		EROS2CKG1001	Metal 2W 1K	1	
R728		EVN50AA00B14	Variable 10K	1	
R731		ERDS2TJ680	68	1	
R732		ERDS2TJ102	1K	1	
R733		ERDS2TJ270	27	1	
R734		ERDS2TJ332	3.3K	1	
R735		ERD2FCG220P	Fuse Resistor 22	1	⚠
R737		ERDS2TJ561	560	1	
R739		ERDS2TJ152	1.5K	1	
R740		ERDS2TJ103	10K	1	
R741,742		ERDS2TJ563	56K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R752		ERD2FCG220P	Fuse Resistor 22	1	⚠
R754		ERDS2TJ152	1.5K	1	
R755		EVNK6AA00B24	Variable 20K	1	
R756		ERDS2TJ102	1K	1	
R757		ERDS2TJ333	33K	1	
R758		ERDS2TJ562	5.6K	1	
R759		ERDS2TJ333	33K	1	
R760		ERDS2TJ562	5.6K	1	
R790		ERDS2TJ750	75	1	
R7014		ERDS2TJ102	1K	1	
R7015		ERDS2TJ103	10K	1	
			Capacitors		
C701		ECEA1CS220	Electrolytic 16V 22	1	
C702		ECEA1CS100	Electrolytic 16V 10	1	
C703		ECKF1H103ZF	Ceramic 50V 0.01	1	
C704		ECEA1CS330	Electrolytic 16V 33	1	
C705		ECEA50ZR68	Electrolytic 50V 0.68	1	
C706		ECEA1CS330	Electrolytic 16V 33	1	
C707,708		ECKF1H103ZF	Ceramic 50V 0.01	2	
C709		ECQV05224JZ	Mylar 50V 0.22	1	
C710		ECKF1H103ZF	Ceramic 50V 0.01	1	
C711,712		ECCF1H030CC	Ceramic 50V 3P	2	
C713		ECCF1H121J	Ceramic 50V 120P	1	
C714		ECCF1H220J	Ceramic 50V 22P	1	
C715,716		ECKF1H103ZF	Ceramic 50V 0.01	2	
C717		ECCF1H150J	Ceramic 50V 15P	1	
C718		ECCF1H560JR	Ceramic 50V 56P	1	
C719		ECEA50Z1	Electrolytic 50V 1	1	
C720		ECKF1H103ZF	Ceramic 50V 0.01	1	
C721		ECEA1CS470	Electrolytic 16V 47	1	
C723		ECEA1EN4R7	Electrolytic 25V 4.7	1	
C724		ECCF1H150J	Ceramic 50V 15P	1	
C726		ECCF1H680J	Ceramic 50V 68P	1	
C727		ECCF1H100DC	Ceramic 50V 10P	1	
C728		ECCF1H150JR	Ceramic 50V 15P	1	
C731		ECQV05103JZ	Mylar 50V 0.01	1	
C732		ECKF1H103ZF	Ceramic 50V 0.01	1	
C733		ECCF1H151J	Ceramic 50V 150P	1	
C734,735		ECKF1H103ZF	Ceramic 50V 0.01	2	
C736		ECEA1HS010	Electrolytic 50V 1	1	
C737		ECEA1CS220	Electrolytic 16V 22	1	
C739		ECKF1H103ZF	Ceramic 50V 0.01	1	
C740		ECQV05104JB	Mylar 50V 0.1	1	
C743		ECQV05103JZ	Mylar 50V 0.01	1	
C746		ECEA1CS220	Electrolytic 16V 22	1	
C751		ECCF1H050CC	Ceramic 50V 5P	1	
C753		ECQV05473JZ	Mylar 50V 0.047	1	
C754		ECEA1CS101	Electrolytic 16V 100	1	
C755		ECCF1H390J	Ceramic 50V 39P	1	
C756		ECCF1H120J	Ceramic 50V 12P	1	
C757		ECKF1H561KB	Ceramic 50V 560P	1	
C758		ECCF1H820J	Ceramic 50V 82P	1	
C759		ECEA1CS100	Electrolytic 16V 10	1	
C760		ECEA1HN010	Electrolytic 50V 1	1	
C761		ECQV05393JZ	Mylar 50V 0.039	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Coils		
L701		VLQEL06F220K	22μH	1	
L703		VLQEL06F150K	15μH	1	
L704		VLQEL06F470K	47μH	1	
L705		VLQEL06F560K	56μH	1	
L706		VLQEL06F820K	82μH	1	
L707		ELQSR68KB	0.68μH	1	
			Resistor Arrays		
RX701		EXPR220K272S		1	
RX702		EXPR102K471S		1	
			Crystal Oscillators		
X702		EFCS5R5MS4		1	or VLF0178
X703		EFCS5R5MW3		1	or VLF0182
			Transformers		
T700		EIV7E016H		1	
T701		EULHLB307		1	
T702		EIM7A511		1	
T703		EIV7E016F		1	
T704		EIV7E016E		1	
T751		EIS7E006A		1	
T752		EIS7E006B		1	
			Connectors		
P701		VJP1232	5P	1	
P702,703		VJP1230	3P	2	
P704		VJP1239	12P	1	
			Miscellaneous		
		INV57756F2R	Tuner	1	
		VSC0741	Shield Case (Top)	1	
		VSC0742	Shield Case (Main)	1	
		VSC0743	Shield Case (Bottom)	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP07179C	Timer Decoder P.C. Board Unit		(NV-600EO)
			Integrated Circuits		
IC7501		MN1455BVE		1	
IC7503		MN1512VTG		1	
IC7504		MN1228		1	
IC7505		AN5033		1	
			Transistors		
Q7501		2SB641		1	or 2SA564, 2SA733, 2SB642
Q7502		2SB641		1	(R,S,T)
Q7503		2SD636		1	or 2SC1684, 2SC945A, 2SC637
Q7505		2SD636		1	or 2SC1684, 2SC945A, 2SC637
Q7506		2SB641		1	or 2SA564, 2SA733, 2SB642
Q7507-7509		2SB644		3	
Q7510		2SD637		1	or 2SC1685
Q7511		2SB642		1	
Q7513-7515		2SB642		3	
			Diodes		
D7501,7502		MA165		2	or 1SS133
D7504		MA165		1	or 1SS133
D7505		LN28WP.VT	LED	1	
D7506-7508		10E2		3	or ERB12
D7509		MA27WB		1	
D7510		LN28WP.VT	LED	1	
D7511		10E2		1	or ERB12
D7512		RD30EB2	Zener	1	or RD30EB3, MA1300
D7513		RD7.5EB	Zener	1	or EQA01, MA1075
D7520-7522		MA165		3	or 1SS133
D7523		LN38GCPP	LED	1	
D7550		MA165		1	or 1SS133
D7552-7554		MA165		3	or 1SS133
D7561-7563		MA165		3	or 1SS133
D7564,7565		10E2		2	or ERB12
			Resistors		
R7501		ERDS2TJ122	1.2K	1	
R7502		ERC14GJ126	Solid 12M	1	
R7503,7504		ERDS2TJ102	1K	2	
R7505,7506		ERDS2TJ223	22K	2	
R7507		ERDS2TJ181	180	1	
R7508		ERDS2TJ334	330K	1	
R7509		EVNK6AA00B25	Variable 200K	1	
R7510		ERDS2TJ124	120K	1	
R7511		ERDS2TJ154	150K	1	
R7512		ERDS2TJ104	100K	1	
R7513		ERDS2TJ224	220K	1	
R7514		ERDS2TJ102	1K	1	
R7515		ERDS2TJ183	18K	1	
R7516		ERDS2TJ473	47K	1	
R7517		ERDS2TJ102	1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R7518	ERDS2TJ105	1M	1	
R7520,7521	ERDS2TJ271	270	2	
R7522	ERDS2TJ182	1.8K	1	
R7523-7525	ERDS2TJ473	47K	3	
R7526	ER010TKG1003	Metal 1/8W 100K	1	
R7527	ERDS2TJ104	100K	1	
R7528	ERDS2TJ103	10K	1	
R7529	ERDS2TJ473	47K	1	
R7530	ERDS2TJ104	100K	1	
R7531	ERDS2TJ124	120K	1	
R7532	ERDS2TJ122	1.2K	1	
R7533	EWEU2A016B24	Variable 20K	1	
R7534	ERDS2TJ271	270	1	
R7535	EVNK6AA00B14	Variable 10K	1	
R7536	ERDS2TJ103	10K	1	
R7537	ERDS2TJ473	47K	1	
R7539	ERDS2TJ390	39	1	
R7540	ERDS2TJ820	82	1	
R7541	ERDS2TJ153	15K	1	
R7542	ERDS2TJ473	47K	1	
R7543	**ERD2FCG181**	**Fuse Resistor 180**	**1**	⚠
R7544	ERD50TJ472	1/2W 4.7K	1	
R7545	ERDS2TJ561	560	1	
R7546	ERDS2TJ273	27K	1	
R7547	ERDS2TJ104	100K	1	
R7548	ERDS2TJ103	10K	1	
R7550	ERDS2TJ391	390	1	
R7551-7556	ERDS2TJ273	27K	6	
R7557-7559	ERDS2TJ473	47K	3	
R7566	ERDS2TJ562	5.6K	1	
R7567	ERDS2TJ103	10K	1	
R7570,7571	ERDS2TJ332	3.3K	2	
R7575	ER025SKG6813	Metal 681K	1	
R7576	ERDS2TJ223	22K	1	
R7577	ERDS2TJ473	47K	1	
		Capacitors		
C7501	ECCF1H080DC	Ceramic 50V 8P	1	
C7502	ECV1ZW20X53	Tantalum 500V 20P	1	
C7503	ECCF1H050CC	Ceramic 50V 5P	1	
C7504	ECCF1H330J	Ceramic 50V 33P	1	
C7505	ECCF1H220J	Ceramic 50V 22P	1	
C7506	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7507	ECEA1HKR22	Electrolytic 50V 0.22	1	
C7508	ECEA50ZR22	Electrolytic 50V 0.22	1	
C7509	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C7510	ECEA1AS101	Electrolytic 10V 100	1	
C7511	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7512	ECEA1HKR22	Electrolytic 50V 0.22	1	
C7513,7514	ECCF1H470J	Ceramic 50V 47P	2	
C7515	ECQV05104JZ	Mylar 50V 0.1	1	
C7516	ECQV05683JZ	Mylar 50V 0.068	1	
C7517	ECQV05273JZ	Mylar 50V 0.027	1	
C7518	ECQV05823JZ	Mylar 50V 0.082	1	
C7519-7521	ECKF1H103ZF	Ceramic 50V 0.01	3	
C7522	ECEA1JS101	Electrolytic 63V 100	1	
C7523	ECEA1HS010	Electrolytic 50V 1	1	
C7524	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7525	ECEA1JS101	Electrolytic 63V 100	1	
C7527	ECEA1HS100	Electrolytic 50V 10	1	
C7528	ECQV05473JZ	Mylar 50V 0.047	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C7530	ECEA1HS010	Electrolytic 50V 1	1	
C7531	ECEA1CS100	Electrolytic 16V 10	1	
C7532	ECEA1HS010	Electrolytic 50V 1	1	
C7533	ECKF1H103ZF	Ceramic 50V 0.01	1	
C7540-7542	EECW2R3A3R3	Gold Capacitor 2.3V 3.3F	3	
C7543	ECEA1HK010	Electrolytic 50V 1	1	
C7545	ECEA1JS101	Electrolytic 63V 100	1	
		Coil		
L7501	VLQEL06F102K	1mH	1	
		Crystal Oscillators		
X7501	VSX0071		1	
X7502	VSX0094		1	
X7503	VSX0082		1	
		Switches		
SW7516	VES0213		1	
SW7517	ESD14137A		1	or VSS0050
SW7518-7520	EVQQS405K		3	
		Connectors		
P7501	VJP1239	12P	1	
P7502	VJP1233	6P	1	
P7503	VJP1237	10P	1	
P7505	VJP1229	2P	1	
		Miscellaneous		
	VGQ0457	LED Spacer (For D7523)	1	
	VGT0305	Tuning VR Knob	1	
		Output Jack P.C. Board		
P3001	VJP1243	Connector 3P	1	
P3002	VJP1244	Connector 4P	1	
S3002	VSS0043	Switch	1	
	XTV3+8G	Screw	1	